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THE CONTROL OF GEOGRAPHIC PRICE RELATIONS UNDER CODES OF FAIR COMPETITION

By

Gustav Seidler, Jr.

WORK MATERIALS NO. 86

TRADE PRACTICE STUDIES SECTION
MARCH, 1936

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FOREWORD

This report on Control of Geographic Price Relations was prepared by Mr. Gustav Seidler, Jr., of the Trade Practice Studies Section, Mr. Corwin D. Edwards in charge. Under Mr. Seidler's general supervision, Mr. G. P. Dougherty wrote the chapter on the lumber and timber products industries, and Mr. W. C. French, Jr., prepared the materials relating to the iron and steel industry.

The main objective of the report is to contribute to a clarification of the character and effects of trade practices which bear on the geographic differentiation of prices. It is shown that the widely held opinion according to which all and any price discrimination is monopolistic does not do justice to the matter and is insufficient for an understanding of the real problems involved. Any appraisal in terms of public policy must be based on the compatibility of the pricing practices reviewed with specific and well-defined objectives of public policy such as, for instance, the maximization of the real national income, economic development of geographic districts in conformity with shifts in the population, and a number of others.

Due to limitations of time and personnel, the present report does not represent a complete and finished treatment of the matter. Only two of the major industries in which geographic pricing devices such as basing points and zoning systems played a significant role under NRA, could be afforded a somewhat detailed treatment. These industries are the iron and steel industry and the lumber and timber products industries. Other interesting cases such as the cement industry, the lime industry, the salt industry and a number of other industries could be given only passing attention. But even the lumber industries and the iron and steel industry, to which the second and third chapters of this study are devoted, have not been covered in all their pertinent aspects.

In the chapter on lumber, emphasis is placed on the intricate administrative aspects of the implementation of delivered price equalization according to a general plan. In the steel chapter the pre-code development of the elaborate basing-point system which the code sanctioned in substantially unchanged form, and the structural background of the industry have been afforded the most detailed treatment.

The anti-dumping provision of the ice industry code is briefly dealt with in a special appendix.

The author of this report assumes personal responsibility for all conclusions reached. These conclusions are not to be taken as an official statement of any Government agency.

At the back of this report will be found a brief statement of the studies undertaken by the Division of Review. Particularly worthy of mention in connection with the present study are Work Materials No. 63, the Fertilizer Industry Study.

Production and Capacity Control in the Ice Industry; No. 64 and No. 79.

Economic Problems of the Lumber and Timber Products Industry.

L. C. Marshall
Director, Division of Review

March 26, 1936

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SUMMARY

In the first chapter of this study the different types of geographic pricing practices are defined and analysis of the economic problems to which their operation gives rise is offered.

All of the practices reviewed are classified into two main groups, namely, practices regarding the amount and incidence of transportation charges, and practices regulating the price-making process within the defined regions. Within the main classification the various pricing practices are separately defined.

With respect to the compatibility of these practices (especially the ones involving price discrimination between areas) with FTC policy, it is submitted that the formal criterion of "monopolistic" and "non-monopolistic" practices is not a satisfactory basis for any appraisal. In order to reach a true appreciation of the various types of geographic pricing methods, it is necessary to interpret them as special forms of modified--or "imperfect"--competition and as the consistent expression of peculiarities in the structure of the industries and markets where they exist. Their evaluation in terms of public policy cannot be based on the standard of free and equal competition which is too unrealistic an abstraction to be useful for the appraisal of real conditions. Economic analysis suggests that the geographic pricing practices studied combine in most cases desirable and less desirable features. In order to eliminate these less desirable aspects, judicial decrees or administrative orders will scarcely suffice, but measures directed toward a change in the underlying economic structure must be undertaken.

The structural industry characteristics to which reference is made are defined as primarily relating to the number and size of companies, their horizontal and vertical integration, their cost structure of production characterized by heavy overhead, the geographical distribution of producing points and the historical pattern of profits of the industries reviewed.

With regard to the geographic location of producing facilities, it is shown that factors such as occurrence or cheap assembly of raw materials have been the main determinants, while the use of certain geographic pricing practices such as basing point or zoning systems might have had some modifying influence.

A distinction is made between those practices which are flexible enough to permit readjustments as frequently as changes in the economic conditions necessitate them, and those which tend to freeze the geographic price structure. In the latter group belong rigid basing point and zone systems, while the use of freight-equalization and of the flexible basing point formula belongs to the former class.

In the conclusion of this general analysis an attempt is made to show that the soundness of the practices reviewed should be judged according to a two-fold criterion. First is the question as to whether they support a geographic distribution of production which tends to make the total production, distribution and transportation costs as low as possible. As a

second criterion is submitted the tendency of these practices to facilitate price competition or to induce price agreements and price rigidity by regulating certain geographic aspects of the price-making process.

The main topics of the second chapter, which deals with the lumber industries, is, first, the close relation which existed between minimum prices and delivered price equalization measured in this industry, and, second, the intricate problems of administration which accompanied the implementation of systematic delivered price equalization.

The first part of the chapter attempts to show the critical condition of the lumber industries at the time the code was formulated. The establishment of minimum "cost protection" prices was a major phase of the industry's attempt to find a solution to its difficulties through codification. The minimum prices authorized in Article IX of the code were specifically stated to be f.o.b. mill prices. There was no provision for basing points, delivered price zones, or freight equalization of any type. Nevertheless, the first price bulletins published, in November, 1933, contained for a majority of the divisions and subdivisions, regulations requiring the equalization of delivered prices through the use of basing points, delivered price zones and other devices adopted or invented by the industry according to the needs of particular branches of the industry. Some kind of equalization of delivered prices was, it is concluded, necessary for the maintenance of the minimum prices, because, in an industry for which freight charges are so large a proportion of price delivered to the consumer and the products of which are so highly standardized, unless all producers are able to meet the prevailing delivered price at destination, the long-haul or freightwise distant mills are excluded from the market. This equalization might conceivably have been secured without regulations establishing basing points and price zones in the various divisions, had demand for lumber increased sufficiently and market prices been enough above the minima to permit the long-haul shippers to absorb freight without sacrificing, for each division as a whole, the minimum prices; but since the minima tended to function also as maxima, and since the unlimited absorption of freight would have meant the negation of the principle of minimum prices, control over the quotation of delivered prices proved an integral part of the cost protection price structure.

Of chief significance in this phase of the administration of Article IX is considered to be the failure of the National Recovery Administration (except in isolated cases) to review and investigate the effect of the regulations upon the minimum prices, since it was clearly possible for a division to devise an equalization system which would circumvent the established minima, and have the effect of maintaining the average net yield (or price realization) at the mill for all its members above or below the weighted average cost protection prices. To what extent this possibility materialized may not be known because there were no current surveys completed showing the total of actual freight charges paid and the total of freight amounts included in delivered prices for all the members of a particular division.

In the third part of the chapter a survey is undertaken of the practices in the industries brought under the lumber and timber products industries code with respect to the quotation of delivered and f.o.b. mill prices

before, during and since the code. On the basis of a necessarily incomplete investigation, the finding is that in nearly all these industries in the pre-code period delivered prices were quoted almost exclusively; in only four, however, are these prices known to have been related to basing points or price zones, adhered to under the leadership of trade associations.

Under the code, the divisional systems for delivered price equalization varied, included numerous special modifications and adaptations, but they are classified for the purposes of this report under four general headings: First are basing point systems, which, in simple or modified form were established in such important divisions as the Southern Pine Division, Western Pine Division, Cypress Division, Redwood Division and the two flooring divisions. In all, 13 divisions and subdivisions utilized one or more basing points. Second, delivered price zones were established in 12 divisions and subdivisions; a majority of these were wood fabricating industries, but the walnut and mahogany industries retained their pre-code uniform delivered pricing practices. Third, a special instrument for delivered price equalization, to which the Appalachian and Southern Hardwood Subdivision gave the name "Mill Group and Delivered Price Group Adjustment" was used in that subdivision and in the adjoining North Central Hardwood Subdivision. Fourth, six divisions and subdivisions throughout the period of cost protection prices maintained a practice of f.o.b. mill pricing, but in three of these, including the major West Coast Logging and Lumber Division, delivered price equalization was achieved for special reasons without regulations, and only three minor branches of the industry present genuine examples of that type of pricing.

With the suspension of cost protection prices on December 22, 1934, the basing points and price zones established to support the minimum prices were abandoned, and the various lumber industries reverted to irregular delivered pricing, except that the four industries which had used basing points and uniform delivered pricing in the pre-code period in connection with price reporting by trade associations retained those practices. These were the maple and oak flooring and walnut and mahogany industries.

In view of the limitations of time and personnel under which the study was conducted, the conclusions presented in this part of the chapter are necessarily few and tentative.

In the establishment of basing point, price zoning, and other systems, the divisional agencies in nearly all cases took care to do nothing which might deprive any group of producers, however distantly located with respect to a given market, from the share in that market which they had previously enjoyed. This was probably a practical necessity, since alienation of the support of important groups of producers would have resulted in a breakdown of the minimum prices. Had enforcement of the prices been more effective, it might, however, have been possible to utilize the equalization systems for the gradual reduction of cross-hauling, by setting limitations upon the absorption of freight which, while not necessitating sudden, major readjustments in markets and sources of supply, would, from time to time, have eliminated what may be called the fringe of the long-haul shippers.

The primary consideration of the third chapter is an analysis of the structural features of the iron and steel industry which are functionally related to the establishment of a basing point system long before the adoption of the code. The characteristics of the industry discussed in this connection include the number and size of firms, the importance of horizontally and vertically integrated companies, the cost structure of the industry, and the location of its producing units. The differences in the structural character of each of the main product divisions of the industry are briefly indicated.

The pricing practices which existed in the steel industry in the pre-code period are described at some length. The present multiple basing point system was preceded by two geographical pricing institutions, namely, the zoning and the Pittsburgh-plus systems. They were originally established by pooling associations and agreements. The Pittsburgh-plus system was definitely terminated by a cease and desist order from the Federal Trade Commission in 1924.

The codification of the steel industry's multiple basing point system under NRA had in the main a four-fold effect. First, the basing point practice was given legal sanction and thereby made strictly enforceable. Second, as a list of all basing points for all products was made part of the code, all doubt was removed as to whether a specific point was or was not to be regarded as a basing point. The basing point structure was made rigid, since only the formal procedure of amending the code could affect changes in the number of basing points. At the same time, the number of basing points was increased for practically all industry products as compared with the use of basing points before the code (though no quite determinate information exists with respect to the pre-code situation). Third, the combination of the basing point practice with price filing proved to be of greatest importance for the implementation of the practice. It practically guaranteed the general adherence to the system, through industry-wide publicity of the price quoted by any industry member. Fourth, the code provision preventing industry members from undercutting the lowest price on file at any basing point other than their own basing point (that is, the basing point freightwise nearest to the plant in question) eliminated "dumping" into more distant markets and thereby greatly contributed to stability of the price level.

Since limitation of time prevented the completion of the study of the steel basing point system, no attempt was made to reach determinate conclusions as to the soundness of the system.

Appendix I contains a short presentation of the methods employed in the present report and indicates the lines of further analysis necessary to complete the study. Appendix II discusses the operation of the anti-dumping provision under the Code of Fair Competition for the Ice Industry. It is shown how overcapacity in shrinking markets became an inducement for the industry to regulate competition by confining the price-making process within narrow local boundaries. Such restriction of market areas by code authority regulation or administrative order paved the way in a number of cases for the adoption of elaborate plans of production control and allotment of production quotas.

CHAPTER I

TRADE PRACTICES AND ECONOMIC ISSUES INVOLVED

I. GEOGRAPHIC PRICING PROVISIONS IN NRA CODES.

During the code-making period when hundreds of industries submitted their codes of fair competition to the National Recovery Administration, a substantial portion of all of them proposed to incorporate in these codes some type of trade practice rule relating to the charging of transportation costs and other problems of geographic pricing. A survey of the first 554 codes (including 750 amendments and 195 supplements) shows that 155 codes have some provision of this character (*). Of these 155 codes 98 were concerned with the question of f.o.b. or delivered pricing, 52 out of the latter number providing for f.o.b. point of origin selling, 29 providing for selling on a delivered basis and 21 permitting sales on either an f.o.b. or delivered basis. A group of 90 codes deals with different kinds of transportation allowances and prepayment of freight, 44 of them prohibiting such prepayment or any discriminatory allowances, while 43 permit some form of freight equalization or similar concession. Only 4 codes contain explicit basing point provisions, while 3 other codes provide for freight equalizatio points which resemble basing points in certain respects, though the functional differences are substantial. A number of industries, at least 3 of them of fair size and importance, have no basing point provisions in their codes, although it is known that basing point systems established in pre-code days continued to be in operation under their codes. These instances are of interest from the point of view of NRA problems, because certain other code provisions, not expressly referring to the basing point practice, apparently were devised, among other purposes, to support in an indirect way, the functioning of this practice. In addition, geographic pricing devices, other than the transportation provisions mentioned above, were incorporated in some sixteen codes in the form of zones for price filing and anti-dumping. Finally, there is a group of codes, some twelve in number, which contain provisions enabling or directing the Code Authority to set up some form of transportation provision after the approval of the code.

The NRA, faced with the task of sanctioning or rejecting these provisions in accordance with their compatibility with the purposes of the National Industrial Recovery Act, encountered the serious difficulty that very little information existed regarding their economic character and operation. This lack of factual information prevented the formulation of any well-defined principles of evaluation from the point of view of public policy. The following pages attempt to contribute to an understanding of the actual operation of the trade practices mentioned and to their appraisal in terms of public policy. A brief definition of the various practices and systems is given first. A consideration of the possible criteria as to their compatibility with

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(*) See NRA, Research and Planning Division, Post Code Analysis Unit, Reports Numbers 66 and 66-A.

NRA policy follows next. Then, in order to throw light on the applicability of these criteria to actual conditions, a short description of relevant industry characteristics and of the operation of the practices examined is undertaken. A final section summarizes the chief conclusions regarding the soundness of the reviewed practices from the point of view of public policy.

II. GEOGRAPHIC PRICING PRACTICES DEFINED.

The practices here considered can be classified into two main groups, viz., first, those which regulate the amount and incidence of transportation charges and, second, those which define the geographical area in which certain phases of the price making process are regulated. It should be noted that this dichotomy is based on the immediate instrumentality by which geographic differentiation of prices is effected rather than upon the ultimate results. The effects of the two methods on the geographic differentiation of prices are generally not clearly distinguishable, but fuse into one another. The regulation of transportation charges affects both directly and indirectly, practically all aspects of the geographic price structure. Price filing and anti-dumping zones, on the other hand, were in practice usually combined with provisions regarding transportation charges.

A. Practices Regarding Transportation Charges.

1. F.O.B. Pricing

The abbreviation f.o.b. stands for "free on Board" and has reference to an arrangement whereby the goods sold are delivered free of charge to the means of conveyance (train, vessel, truck, etc.) (*) Accordingly, by literal interpretation f.o.b. is identical with "f.o.b. points of origin" or "f.o.b. shipping point" and is so used in the present report. A less accurate, but not infrequent use (which is avoided in the following pages), is the term "f.o.b. destination" meaning free of charge to the point of destination, which is in fact the method of delivered pricing. From a legal point of view the distinction between f.o.b. and delivered prices is based on the fact that in the first case the transfer of title (together with risk of loss in transit) takes place at the shipping point at the time when the goods are given to the shipper (railway, trucking company, etc.), while in the latter case it does not occur until the goods are delivered at their final destination as determined by the buyer. From an economic standpoint the significance of the distinction lies in the more comprehensive service to be rendered in the case of a delivered sale, which includes the procurement of the goods themselves as well as their delivery at a certain time and place; and particularly in the payment

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(*) Cf. the able presentation of the matter in the Report of the Federal Trade Commission on Price Bases Inquiry, March, 1932, p. 5 ff.

of a total price by the buyer, the formation of which does not need to be and very frequently is not the same as the formation of an f.o.b. price plus actual cost of transportation.

Some industries and trades use f.o.b. prices with full freight allowed or with freight partially allowed or with freight equalization. These terms indicate that a certain amount is deducted from the f.o.b. price, in order thus to take care of either the entire transportation cost or some part of it. These cases are economically much more closely related to the practice of delivered pricing and, therefore, will be treated in that connection. Under f.o.b. pricing with freight equalization it may seem at first glance that those individual transactions where no shipping occurs or for other reasons no price deduction for equalization purposes takes place, result in pure and genuine f.o.b. prices. This interpretation, however, is economically inaccurate, since even in individual instances of the above mentioned nature the price quoted must contain some element which corresponds to the average per unit amount of freight allowances on the total sales. Strictly speaking, therefore, f.o.b. pricing exists in consistently pure form only when all buyers take possession of the goods bought at the point of origin and all of them pay a price regardless of any shipping of the goods which they may or may not undertake.

As mentioned above, 52 of the industries which were codified by NRA adopted the practice of selling f.o.b. shipping point, while 21 permitted sales on either an f.o.b. or delivered pricing basis. For most of these industries the problem of charging transportation costs is of no great importance, either because of the predominantly local character of their businesses or because of the small amount, even of long-haul freight charges, in proportion to the per unit value of their products. Limitations of time and personnel have precluded an examination of the geographic price structure of any of these industries for the purposes of the present report.

2. Delivered Pricing

A delivered price has been described above as a price paid by the buyer for both the goods themselves and their transportation to a desired point of destination. Delivered pricing differs in its economic significance from f.o.b. pricing chiefly because of the opportunity for price discrimination between sales regions which it offers. Such discrimination becomes evident only when the delivered price quotations are broken down into their constituent elements. This fact is an obstacle in the way of perfect market information. The method of delivered pricing can be combined with any of a number of special devices which are briefly defined as follows.

(a) First are delivered prices which vary in direct proportion to actual transportation charges. The seller adds his actual freight expense to his basic mill price. The difference between this method and f.o.b. pricing lies in the fact that the buyer defrays the cost of transportation by paying a proportionately higher amount to the vendor instead of paying directly to the transportation agency.

The method has advantages for the buyer in that it spares him the trouble of making freight computations and comparisons as between different bidders and frees him of the risk of loss in transit. For the seller this type of delivered selling has no particular advantage, but is technically more complicated than the simple f.o.b. quotation. On the whole, it does not seem to be a widely used practice.

(b) Delivered prices of another type are those uniform for all destinations either in the entire country or within certain zones into which the country is divided. The former type (uniform for the entire country) is frequently referred to as a "postage stamp" price. In the case of commodities of small bulk and high value per unit of weight, with correspondingly low cost of transportation, the postage stamp or uniform zone delivered price does not raise any problems of great significance. But even some bulky and heavy commodities such as, for instance, American and African mahogany under the NRA code, were sold on this basis. (*) It is clear that the uniform delivered price must contain an element conforming to the per unit average of the freight charges incurred on all shipments. This method of averaging tends to favor certain buyers and sellers and to put others at a comparative disadvantage except in the highly improbable case of a geographical distribution of sales and purchases which balances the advantages and disadvantages of individual transactions in the same proportion for all buyers and sellers.

(c) It has been pointed out above that f.o.b. prices with full or partial freight allowed are, in their economic significance, closely akin to delivered prices with freight equalization. The idea underlying this method of pricing is that while inclusion in the delivered price of the full amount of freight incurred is regarded as the theoretically normal condition, an amount lower than actual freight will be included by any seller who has to compete with another seller who is freightwise more favorably located than the former. In this manner all prospective vendors competing for business at a given place equalize that element in their delivered prices which represents freight by reducing it to the lowest freight rate actually paid by any of them. The difference between the amount recovered as part of the delivered price and the amount defrayed is absorbed by the seller.

A number of industries have in their codes specific provisions authorizing freight equalization to meet competition. The following are the more important ones in this group:

Wallpaper Manufacturing (Approved Code No.19)
Wholesale Wallpaper Trade (Approved Code No.201, Supplement 2)
Laundry and Dry Cleaning Machinery Manufacturing, (Approved Code No.34)
Furniture Manufacturing (certain products) (Approved Code No.145)
Wholesale Automotive Trade (Approved Code No.163)

(*) For details see Chapter II, infra.

Saw and Steel Products Manufacturing (Approved Code No.274)
Railroad Special Track Equipment Manufacturing (Approved Code No. 385)

There are in the group a few other industries of minor significance.

(d) Similar to the freight equalization scheme in certain respects, though fundamentally differing from it in others, is the system of basing point delivered prices. Under this system prices for the commodity in question are quoted exclusively as of a certain basing point or basing points, and all sellers, regardless of their actual shipping points and the distances over which their goods are actually transported, charge the basing point price plus freight from the basing point of destination. In the case of one basing point for the whole country the scheme is designated as a single basing point system, as contrasted with a multiple basing point system which provides for a number of basing points. Under the latter arrangement the so-called basing point formula establishes the rule for ascertaining which basing point governs the price of any given transaction. The lowest sum of basing point price plus freight from basing point to destination, all basing points considered, determines the choice of the basing point and the delivered price for any destination.

The four industries, the codes of which contain explicit basing point provisions, are the following:

Iron and Steel Industry (Approved Code No.11)
Lime Industry (Approved Code No. 31)
Reinforcing Materials Fabricating Industry (Approved Code No.127)
Steel Joist Industry (Approved Code No.495).

The lumber and timber products industry (Approved Code No.9) is another industry which adopted basing points for some of its subdivisions (prominently the maple and oak flooring divisions), though not on the basis of any explicit code provision, but by code authority regulation based on a very general enabling provision in the code. The two following industries, which have neither in their codes nor code authority regulations any reference to basing points, continued under NRA. the operation of basing point systems established in pre-code days:

Cast Iron Soil Pipe Industry (Approved Code No.18)
Cement Industry (Approved Code No.128).

Three industries provided in their codes for equalization of freight rates with a number of expressly designated points. Such exclusive freight equalization points resemble basing points in that their freight rates are substituted for the actual rates from shipping point to destination whenever a lower delivered price will result thereby; but they differ from basing points in other essential respects, conspicuous among which is the fact that their freight rates are never applied when they are higher than the rate for the actual haul. The industries in question are the following:

Laundry and Dry Cleaning Machinery Manufacturing (Approved Code No.34)
Furniture Manufacturing (Cedar Chest Division) (Approved Code No.145)
Cotton Ginning Machinery Manufacturing (Approved Code No.485)

Another industry, the salt producing industry (Approved Code No. 20), incorporated in its code an elaborate system of marketing regions and regional price filing, in the actual operation of which freight equalization with certain producing points was of importance.

While the iron and steel and the lumber and timber products industries are dealt with in special chapters of this report and the lime, cement, cast iron soil pipe and salt industries are referred to for the purpose of exemplifying general problems expounded in subsequent sections of the present chapter, limitations of time and personnel have rendered impossible the treatment of any of the others of the above mentioned industries.

B. Practices Regarding the Price Making Process within Certain Areas.

1. Price Filing Zones

It is not intended to treat in this report any of the problems surrounding the practice of price filing or open price posting. For present purposes suffice it to say that certain price filing industries, instead of arranging for the filing of one set of prices for the whole country, established price filing by zones, either through one single national agency or through a number of regional agencies which handled the recording and distributing of the prices filed. Some industries provided for price filing by industry members in the zones where their places of business are located, while others adopted the system of filing prices in all zones where an industry member intends to sell. Under the latter system the same firm frequently filed in different zones different prices for its products. Different systems of regulating the incidence of transportation charges can be combined with the zone price filing scheme. In some cases the regional agency was vested with the authority to prescribe a uniform regulation of transportation charges for the whole zone; in others every member was free to file his own terms together with his filed prices. But even in these latter cases a tendency towards the adoption of a uniform system by all industry members filing within the same zone obtained quite generally.

The codes of the following industries contained provisions for price filing by zones:

Salt Producing Industry (as mentioned above)
Ice Industry (Approved Code No. 43)
Fertilizer Industry (Approved Code No.67)
Vitrified Clay Sewer Pipe Manufacturing (Approved Code No.136)

Paper Distributing Trade (Approved Code No.176)
Carbon Dioxide Industry (Approved Code No.295,Supplement B)
Ready-Mixed Concrete Industry (Approved Code No.311)

and a few other industries.

Comparable to price filing by zones is the inclusion of delivery points in the filed price lists, as practiced under the Farm Equipment Manufacturing and Road Machinery Manufacturing Codes (No. 39 and 68 respectively). In this connection it is of interest to note that in all basing point industries, including the cast iron soil pipe industry (which did not have any explicit basing point provision in its code), but excepting the cement industry (which filed delivered prices for all points of destination), the filing of prices as of the recognized basing point or basing points was adopted as a supplement to the basing point system itself.

2. Anti-Dumping Zones ("Market Areas")

These zones constituted a much more direct and effective regulation of the price making process than did the price filing zones. The anti-dumping zones can be compared with the erection of a tariff wall around the markets of a country. Their underlying intention was to exclude producers and sellers who are located outside a certain area from participating in the formation of the price level for this area. The reason most frequently advanced for this arrangement was the danger that outside producers would easily be tempted to dump their surplus production at a destructive price in markets distant from their home market. Theoretically the setting-up of anti-dumping zones can take place without prejudice to the competitive formation of prices within the zones. Practically, however, there was a distinct tendency to combine the establishment of anti-dumping zones (sometimes referred to as "natural market areas") with some scheme to intra-zone control of competition. This was sometimes mere price filing by all sellers in the zone; sometimes it was some form of coat protection or minimum price determination. The restrictions on sales by outsiders can also be of various types. In some industries outsiders were not permitted to sell below the lowest price quoted by some seller within the zone. In other cases they had to quote prices not lower than their home prices or cost of production plus full transportation charges. In a few instances (in sub-divisions of the lumber and timber products industries) the addition of a flat amount over and above mill quotation plus freight charge was provided for, in an attempt to counterbalance some special geographic advantage which certain groups of sellers otherwise would enjoy when shipping to a certain zone or area.

The outstanding examples of anti-dumping zone provisions were furnished by the codes for the salt producing and ice industries. The provision adopted by the iron and steel industry and the lime industry, which prohibited industry members from quoting a price below the lowest filed price whenever selling as of a basing point other than their home basing point, was in its nature and effects closely comparable to the anti-dumping zone provision. In one respect most instances of price filing zones resembled the anti-dumping zones in that they limited the

number of industry members who participated in the price making process for each individual zone.

III. POSSIBLE CRITERIA AS TO THE COMPARABILITY OF GEOGRAPHIC PRICE DISCRIMINATION WITH NRA POLICY.

In sanctioning codes of fair competition which provided for selling on an f.o.b. basis, NRA clearly dealt with a simple matter involving no problems of fundamental significance. The situation was different in the case of those forms of delivered selling which imply discrimination in price between customers differently located, such as basing point delivered selling and certain types of zone delivered selling and delivered selling with freight equalization. In these cases apparently an important question of public policy was involved. The Clayton Act of 1914 declared price discrimination between customers under like conditions to be unlawful where the effect of such discrimination may be to substantially lessen competition or tend to create a monopoly, unless such discrimination is based, among other things, on the cost of selling or transportation. However, the legal situation with respect to the application of this part of the Clayton Act to matters of geographic price differentiation was far from being entirely clear. It was most unfortunate for the shaping of NRA policy that contradictory interpretations of the subject could be drawn from court decisions and Federal Trade Commission orders. The decisions handed down by the United States Supreme Court in the Maple Flooring and Cement cases of 1925 implied that systems of delivered pricing and the use of basing points were not to be regarded as unlawful, at least under the special conditions of these two cases. (*) The Federal Trade Commission, on the other hand, had issued a cease and desist order in 1924 enjoining the United States Steel Corporation and a number of its subsidiaries from the use of a single basing point system with Pittsburgh as the pricing base for the whole country (the so-called Pittsburgh-Plus system). The corporation did not appeal to the courts, but expressed its willingness to comply with the order, its statement, however, being couched in somewhat uncertain language and with certain reservations attached. What followed in practice was a change from the Pittsburgh single basing point system to a multiple basing point system. As the Federal Trade Commission failed to take any further steps in the matter, it remained an open question whether the objections raised against the single basing point system did apply also in the case of the multiple basing point system. Another case which promised to shed much light on the question of the legality of geographic pricing practices, viz., the case of the United States of America v. The Sugar Institute et al., was pending before the United States District Court in the Southern District of New York, but the court's decision was not available during the first nine months of NRA when the most important codes were made and approved. When the court finally issued its decree, in March, 1934, it went so far as to enjoin the defendants (that is, The Sugar Institute and fourteen corporation members of the Institute) from engaging or attempting to engage directly or indirectly with one another or with any competitor

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(*) Cf. 268 U.S. and 563 and 268 U. S. 588.

through any program in, among other things, "selling only on delivered prices or refusing to sell f.o.b. refinery" and, furthermore, from "effectuating any general plan to give the same terms, conditions, or freight applications to customers, regardless of the varying circumstances of particular transactions or classes of transactions or regardless of the varying situation of particular * * * customers or classes thereof;" and from "selling only upon or adhering to prices, terms, conditions or freight applications announced, reported or relayed in advance of sale or refraining from deviating therefrom;."(*) This apparently means that the planned, methodical and general use of any system of geographic pricing is regarded as unlawful. However, appeal has been made to the United States Supreme Court and up to the date of the writing of this report the latter had not handed down its decision. In view of the attitude taken by the Supreme Court in the Maple Flooring and Cement cases above referred to, it is not possible that the opinion of the lower court may be modified in various respects. Under these circumstances of uncertainty regarding the matter of geographic pricing practices, it is especially important to examine the reasons set forth by the opponents of the basing point system and related delivered pricing systems.

A. The Case Against Geographic Price Discrimination: The Law of Competitive Market Areas.

The economic reasons which determined the Federal Trade Commission in issuing the cease and desist order against the United States Steel Corporation in 1924, have been clearly expounded by two prominent economists, Frank A. Fetter and John R. Commons (**).who appeared as important witnesses before the Commission in the proceedings against the Steel Corporation. The basis of this economic philosophy can be seen in the conviction that competition is positive and creative, not destructive, while monopoly implies waste, and leads to exploitation of the consuming public. It is, therefore, an important objective of public policy to preserve as far as possible truly free and equal competitive markets. This is believed to be feasible by the method of adopting rules and regulations which will prevent unfair trade practices and thereby bring actual markets as close to the ideal of free competitive conditions as the circumstances of individual industries allow. As a standard for appraising actual market conditions the

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(*) United States of America v. The Sugar Institute, Inc., et al., Final Decree issued by the United States District Court in the Southern District of New York, 1934.

(**) Cf. F. A. Fetter, "Masquerade of Monopoly", New York, 1931, and J. R. Commons, "The Delivered Price Practice in The Steel Market" American Economic Review XIV, 3, September 1924. See also G. C. Means' Review of Fetter's book in Columbia Law Review, Vol. XXXII.

"Economic Law of Market Areas" has been developed by Dr. Fetter. Markets which approximately conform to the pattern laid down by this law of market areas can be regarded as realizing the competitive principle, while deviations from this pattern indicate monopolistic conditions. In Chapter 20 of Dr. Fetter's above mentioned book, the territory surrounding a producing center is designated as the market area for this producing center and it is claimed that free competition will bring about a uniform price to all buyers at the place of production. This price will be the lowest one charged at any place for the commodity in question, while prices charged at places distant from the producer will rise in exact proportion to the cost of transportation. This natural adjustment of prices throughout the market territory can be compared to an inverted cone with the producing center as the low point and prices rising with the cone in all directions away from the producing center. If there are two or more producing centers, each of them has its surrounding market area and its cone of geographical price distribution. The line of demarcation between two adjacent market areas will take the form of a hyperbola which is so located that the difference in transportation costs from the two producing centers to any point on this hyperbola will just counterbalance differences between the prices prevailing at the places of the two producing centers. A basic assumption is that the competition among sellers for the business offered by the prospective buyers will tend to bring the prices at the different centers of production nearer and nearer towards the low point of actual cost of production. Competition will induce the producers to strive continuously for improved methods of production in order to bring down their costs as much as possible and gain an advantage over competing producers. Thus the best possible use will be made of the available natural resources and, at the same time, the cost economies brought about by improved production methods will be passed on to the general consuming public.

Dr. Fetter claims that any method of discrimination among buyers in different localities distorts the natural adjustment of prices towards the low level of cost production plus actual transportation charges and must be regarded as a monopolistic abuse. According to his opinion such a situation can be simply and easily remedied by prohibiting the use of the basing point practice under the existing anti-trust laws and by enforcing publicity for all prices at the point of origin of the goods. Open quotation of prices on a mill-price basis will be accompanied by the conditions characterizing the ideal market as delineated by the theory of free and equal competition.

The Federal Trade Commission accepted the economic reasoning laid down by fetter, Commons and other economists and based on it the cease and desist order of 1924 enjoining the steel industry from using the Pittsburgh single basing point system. It appears, however, that this line of economic interpretation of market phenomena does not do justice to certain factors of fundamental significance. Before considering the policy adopted by NRA with respect to basing points and related pricing practices, it is therefore, necessary to examine those aspects of modern industrial conditions which seem to make inevitable a certain degree of geographic price discrimination.

B. Factors Inducing Geographic Price Discrimination; Patterns Of Industry Structure And Patterns Of Geographic Price Structure.

Conditions in the most important basing point and zoning industries above referred to (that is, the iron and steel, cement, lime, cast iron soil pipe, and salt industries) suggest that the pricing practices in use are the effect and expression of much more basic industry factors and that the prohibition by judicial or administrative decree of basing point or zone pricing would be insufficient to bring about the state of free and equal price competition which is theoretically pictured as the most desirable industrial order. The main aspects of the discrepancy between the assumptions made by the theory of price competition and the fundamental factors which actually characterize the industries under review, may be summarized under the three headings of cost structure of production, excess capacity, and unequal size of producers.

As to the problems of cost of production, it is well known that stability both of prices and of volume of production is of much more vital importance to industries with heavy overhead charges than to industries the costs of which consist chiefly of direct out-of-pocket expenses. When markets shrink, the latter automatically reduce the volume of their operating expenses in proportion to the reduction in their volume of business, and when prices fall, their costs go down as well as the prices received for their products (though possibly not to the same degree). This, however, is not true of industries with heavy overhead charges. A substantial portion of their total cost is fixed regardless of whether they run their factories full blast or only at a rate of 10 or 20 per cent of capacity. These fixed costs constitute a rigid item in their accounts even in the face of a general fall of all flexible economic values. Therefore, the greater the amount of fixed capital which is invested in an industry, the more vital becomes the interest in capacity volume of business and in stable prices for the members of the industry.

In the light of this characteristic of overhead costs the fact of cyclical excess capacity, an inevitable concomitant of the recurring depressions of our industrial system, gains special significance. As long as an industry runs at less than full capacity, it is operating under conditions of diminishing cost, since each increase in the volume of production will lower the per unit cost of the product. Under such conditions it is an established fact that prices will display a strong tendency to fall as long as any producer can hope to raise his operating ratio by bringing his price down toward the low point of mere out-of-pocket expenses. Considering the fact that the cyclical shrinkage of demand for basic products such as steel, cement, or lime has been so severe during the last depression that a very few large producers could well supply the purchases of the whole country, it becomes clear that the competitive logic of the situation tends towards ruthless price-cutting, which may not come to an end until the financially strongest company has absorbed the capacity of its competitors. In these circumstances consistent competition tends to lead to its own negation, that is, to the rise of monopoly.

The logic of consistent competition having been led ad absurdum in the given circumstances, all of the industries here considered have developed a modification of the competitive principle, which is generally known as price leadership,(*) The behavior of prices in these industries(**) leads to the conclusion that price leadership cannot be construed as the negation of price competition, but must be understood rather as a principle by which price competition is confined within certain limits. Generally speaking, it can be defined as the conviction on the part of the members of an industry that to pursue price competition to its logical end would mean economic ruin for the majority of them and, in accordance with this conviction, the general willingness to accept the level of prices as set by the strongest company or companies as a ruling standard and the reluctance to deviate from this level except within narrow limits or unless compelled by the force of very unusual conditions such as, for instance, extreme shrinkage of markets in a depression.

As a rule, price leadership results in relative stabilization of price levels. The appraisal of price leadership from the point of view of public policy depends chiefly on the degree of such stabilization. Rigid stabilization in the face of accentuated changes in the general level of prices will be harmful in many respects. Attempts at judging the phenomenon of price leadership without reference to the degree of price stability effected by it do not seem to do justice to the real significance of the matter.

Turning back to the subject of control of geographic price relations after this digression into the field of structural industry characteristics such as heavy overhead, cyclical excess capacity; expanding scale of production, and price leadership, it can be stated that devices of the nature of basing point or zone delivered pricing constitute the consistent application of the principle of price leadership to certain conditions of geographic distribution of production and markets.

As the railway system of the United States was built up during the latter part of the nineteenth century, markets located in distant parts of the country were moved into economic proximity and for the industries here reviewed the expansion of the geographic area over which it became

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(*) It is beyond the scope of the present report to attempt a full treatment of the subject of price leadership. For our purposes reference to this special pattern of competition is necessary only in order to gain the correct understanding of the significance of geographic price controls in industries such as iron and steel, cast iron soil pipe, cement, lime and salt. As to some of the broader implications of price leadership with respect to modifications of the old theory of price competition, cf.: Edward Chamberlin, Theory of Monopolistic Competition, Harvard University Press, 1933, and Joan Robinson, Economics of Imperfect Competition, London, MacMillan and Co., 1933.

(**) Limitations of time and personnel have precluded the completion of price analyses and the conclusions set forth in the text are, therefore, entirely tentative.

possible to do business was very substantial relative to the growth in the size of productive units. However, rapid technological progress and rapid increase in the dimensions of producing units continued after the modern transportation system of the country had practically been completed. The process of diminishing the economic weight of distances and thereby extending the geographic width of markets came to an end, while the growth of large-scale production and the pressure of heavy overhead costs still became more intensive and carried the fierce struggle for business volume from the East, which had been the first center of industrialization, to the West and South. With this intensification of interregional competition the same situation arose as is described above without reference to geographic areas. The struggle for volume and the increased interest in price stability, both effects of the pressure of heavy overhead costs but in irreconcilable conflict with one another, led eventually to the establishment and general acceptance of price leadership on an interregional basis.

In this connection it is important to note that any interregional price policy involves - in addition to the general problem of price levels - the further fundamental problem of price differentials between regions. While in a market which is assumed to be without geographic dimensions the determination of prices has to deal with only one set of causes relating to one level of prices, the determination of prices in the national market which covers the geographic area of the whole country necessarily deals with as many specific sets of causes as there are localities in which sales contracts are made. In the case of commodities, the cost of production of which differs materially as between different producing districts or the shipping costs for which are high relative to their per unit value, the weight of the forces making for marked price differentials between regions and localities is great. These differentials can be set in many different ways. One very simple hypothetical pattern is laid down in Dr. Fetter's law of market areas, above referred to, which, however, is consistent only with the unrealistic assumptions of atomistic competition and exclusively direct costs of production. Under the conditions of price leadership here dealt with, any number of other patterns of geographic price differentiation may arise, dependent upon the individual circumstances in the industries in question.

It must be emphasized that it is not valid to regard the pattern which is based on price at factory door plus actual freight charges as the only natural one because of its direct relation to costs. Such an assumption certainly would be in conflict with the well established principles of freight rate policy which determine the rate structure not according to costs of individual hauls (if these were at all calculable), but according to a comprehensive set of economic considerations. Likewise a pattern of geographic price differentiation embracing delivered prices which include more than actual freight charges for some destinations and less than that for others might be fully justifiable. From the point of view of the consumers' interest, a system which by relative discrimination between areas makes possible greater concentration of production at one point and thereby lower per unit costs, may be acceptable, as long as discrimination does not become arbitrary and unfounded. From the point of view of the producers' interests several economic factors may press towards the adoption of discrimination between areas. A

significant example is furnished by the case of industries the fixed investments of which (such as steel making investments at Pittsburgh) are so heavily concentrated at one point of production as compared with other producing points that the ratio of overhead costs at this producing center to average shipping costs from this center even to distant destinations is very high. This condition implies a definite urge towards the establishment of a geographic price structure which makes long-distance shipments relatively easier from the one center of production than from other producing points. The flooring divisions of the lumber and timber products industries may serve as another case in point. It is one of the peculiarities of the building market that certain cities habitually use only a certain size of floorings. Each flooring manufacturer, however, is forced by the nature of his production to cut out of a log an assortment of different sizes of flooring. He, therefore, must cater to different markets in order to find buyers for the varied portions of his produce. Some of these markets might be and in actual fact are located at great distances from the producing mills, and the latter can hardly avoid resorting to some scheme of geographic price discrimination. Still another instance can be found in the cement industry. Major cement using projects, such as highway or dam constructions, are entirely irregular as to the place of their occurrence and many important mills can therefore not afford to restrict their solicitation of business to their immediate vicinity. As construction projects appear at different places in different years, they have to reach out for business and make shipments over an area of widely altering radius. This, as a rule, cannot be done without some degree of discrimination in price as between regions and points of destination.

The significance of geographic price discrimination can briefly be summarized as follows. Price cutting in interregional competition takes typically the form of absorption of freight by the seller down to the point where his net yield approaches his mere out-of-pocket expenses for the products sold or, in other words, where he has absorbed freight up to the amount of overhead cost imputable to the respective sale. In the case of locally concentrated large-scale production with heavy fixed overhead charges the amount of freight which can be absorbed by the producer in question is so high that the eventual result of his consistent competition would be the buying-up of other producers over a wide area or, in other words, horizontal integration on a monopolistic scale. For reasons above discussed, the modification of competition through the emergence of price leadership has prevented this result in the industries reviewed. The geographic articulation of price leadership is effected through basing point or zone delivered pricing systems or similar practices. In attempting to judge these practices in terms of public policy the main consideration is that they are mere instrumentalities needed and used to implement desired patterns of geographic price structure. The fact that an industry aims at substituting some planned pattern of geographic price differentiation for the free play of interregional price competition does not appear to be damnable as such. An appraisal of the geographic pricing practices under review must be based on the characteristics of the pattern of geographic price differentiation resulting for each industry rather than on the formal criterion of planned controls versus the free play of competition.

In brief summary, the outstanding structural features of the industries reviewed can be delineated as follows:

(1) The "pattern" of competition in the industries under review is far removed from the theory of "atomistic" competition which underlies the theory of free competitive price formation and which assumes a sufficiently large number of producers, each of them contributing a sufficiently small part of the total supply of goods, so that none of them can expect to influence the market price by his actions but can hope only to realize the greatest profit under the existing market conditions. On the contrary, the industries examined typically contain a relatively small number of producers, each of them supplying a relatively significant portion of the total volume and a few greatly excelling in size. Thus in the steel industry the number of competing companies varies from 4 in rails and 10 in skelp to 67 in merchant and reinforcing bars and 71 in crude steel (ingots and steel for castings). In these lines of production the pronounced leadership of the United States Steel Corporation manifests itself in percentages of total national production ranging from 30 in bars to 55 in rails, while the powerful positions of the Bethlehem Steel Corporation, the Republic Steel Corporation and the Jones and Laughlin Steel Corporation are expressed in percentages between 7 and 27, 6 and 11, and 5 and 11 respectively.(*) In the cement industry we find a total number of 77 companies in the country the five largest of which account for about 40 per cent of the national volume of business, that is, approximately 12, 11, 9, 4 and 4 per cent respectively.(**) In the lime industry the number of companies was 309 in 1931 with the six largest producers supplying 25 per cent of total industry sales.(***) The salt industry shows a picture of 35 companies with 53 plants engaged in the production of salt for sale. Of these 35 companies two are of outstanding size, owning eight large plants and six large plants respectively.(****) Similarly the cast iron soil pipe industry comprises about 40 manufactures, one of whom controls approximately 40 per cent of the entire industry output(*****).

(*) For further details see tables in the Appendix and in Chapter III, Section 1.

(**) See Senate Document No. 71, 73rd Congress, 1st Session, "Cement Industry", p. 12.

(***) See Preliminary Report on the Operation of the Multiple Basing Point Provisions in the Lime Industry, Division of Review, Special Studies Section. Work Materials No.

(****) See the chapter on the Salt Industry, Section I, E, in the Report on "Manufacturers' Control of Distribution", Trade Practice Studies Section, Division of Review. Work Materials No.

(*****) See the Report on the Cast Iron Soil Pipe Code of February 1, 1934, containing Report of the Federal Trade Commission on the same code, NRA consolidated files, Cast Iron Soil Pipe Industry. See also Transcript of Hearings on the Code of August 3, 1933.

(2) In close functional connection with the fact observed under (1) a three-fold set of factors appears further to characterize the production of the same industries. First, their products are highly standardized, are not sold upon any real or claimed difference in quality. Second, these products are of a heavy and bulky nature so that cost of transportation is an important element in the ultimate cost to the consumer. This point gains further weight if production is concentrated (because of the necessity of extracting natural resources or for other reasons) in certain limited districts(*), while consumption is spread more widely throughout the country. Third, an element of heavy overhead cost, be it because of heavy fixed equipment, or of mining properties or other circumstances, is generally significant in the processes of production under review. This overhead element works in the direction of intensifying both the urge for a steady and high rate of operation and the resistance to the lowering of prices in any local market by any producer. It has not been possible to obtain much cost accounting data relative to the proportion of overhead costs to direct costs in the industries examined. However, in Section I, C of the third chapter of this report some pertinent, though not quite satisfactory, information regarding steel is given, which indicates that 17 per cent of total steel making cost in 1933 consisted of overhead. (It is probable that this percentage is too low). As to cement, Table 68 in the Appendix shows that the manufacturing and selling cost per barrel of Portland cement in 1932 amounted to $.98, $1.25 and $1.60 respectively, dependent upon whether a representative plant was operated at 100, 50 or 25 per cent of practical capacity. In the salt industry from 40 to 50 per cent of the cost of manufacturing vacuum pan evaporated salt is estimated to be general overhead cost.(**)

(3) Another feature is the connection between basing point systems and the prevalence of multiple mill companies. Such companies are naturally driven to establishing some system which makes it possible to differentiate prices for the different districts where their mills are located in conformity with some business policy which pays regard to the desired intra-company relations of the single mills. Thus the United States Steel Corporation, through its various subsidiaries, owns mills in most of the steel producing districts of the entire country and both the Bethlehem and the Republic Steel Corporations have mills in a number of different locations. The largest cement producer, the Universal-Atlas Cement Company, has 9 mills located in 8 states, the second largest

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(*) Such districts are, in the case of steel, chiefly the Pittsburgh-Youngstown-Cleveland region and, secondly, the Chicago, and thirdly, the Birmingham region; in the case of cast iron soil pipe predominantly the Northern Alabama district; for salt the seven producing fields in Michigan, New York, Kansas-Oklahoma, Louisiana, California, Ohio-West Virginia and Texas; for the different species of lumber the well defined regions where the respective species grow, as shown in Chapter II, infra; while for cement and lime producing points do not show the same degree of concentration.

(**) Op. cit., Section I, F.

(the Lehigh Portland Cement Company) has 15 mills in 10 states, the third (International Cement Corporation as holding company for the different Lone Star companies) follows with 10 plants in 8 states, the fourth with 9 plants in 8 states, and the fifth with 7 units located in five states.(*) In the salt industry one company owns eight plants; one owns six plants; one owns three plants; and five own two plants each.(**) In the lime industry we find in 1931 309 companies owning 345 plants.(***) Likewise in the cast iron soil pipe industry multiple mill ownership is of significance, one important company, for instance, operating eleven factories in the State of Alabama and twelve warehouses throughout the United States.(****)

(4) The characteristics delineated under (1), (2) and (3) are aspects of the present structure of industry. There is another aspect of importance relating to the historical pattern of growth of some of the major basing point industries. Somewhat over-simplified in order to accentuate the main lines, the historical development of these industries shows the following picture. During an early stage production was concentrated in a limited area such as the Pittsburgh district for steel or the Lehigh Valley for cement. In connection with movements of the population and with the industrialization of an ever growing part of the whole country, new production facilities were set up in regions distant from the original production districts. At first these new production points enjoyed a high price level determined by the prices in the industry's old center plus freight rates from this area. But as the productive capacity of the new districts grew, especially where favorable conditions of raw material assembly, cheap labor, or the like, promoted their easy expansion (Great Lakes region, South, etc.), the danger of over-capacity and ruthless struggle for markets arose. From the point of view of a nationally planned economy the solution clearly would have been to divide markets in order to avoid cross hauling and save transportation cost. In the absence of any industry-wide planning and in connection with the characteristics of competition among a small number of relatively large producers (as indicated above), the inherent forces of the situation drove industry members to develop some scheme of controlled rather than unbridled competition between the old and the new production districts. In the industries under review, where transportation cost constitutes a large part of the ultimate price of commodities and therefore is a determining factor in limiting marketing areas, basing point systems or uniform transportation charge zones were the result of this development, since they facilitate price leadership and reduce the importance of freight charges as a competitive factor.

(*) See Table 67 in the Appendix.

(**) Loc. cit.

(***) Op. cit.

(****) See the report above referred to.

C. The Development of NRA Policy with Respect to Geographic Pricing Practices

In reviewing the development of NRA policy with respect to geographic pricing practices, it must be said that the two years of NRA's duration, from the enactment of the National Industrial Recovery Act to the Supreme Court decision in the Schechter case, were not sufficient for the formulation of a clear, consistent and unequivocal policy. Considering the extremely complicated nature of the matter, the wide scope and intricacy of the economic problems involved, and the fact that available court decisions did not furnish the guidance needed, it is not surprising that the process of formulating bases for administrative and economic policy in these matters was a very slow one.

At the time when public hearings were held on the iron and steel code, one of the first major codes to be approved by NRA, the interest of the Administration focussed on the labor provisions of the code, since the increase of national purchasing power by raising wage rates and spreading employment was regarded as the most important part of the whole NRA program. The transcripts of these hearings show that only passing attention was given to the basing point provision of the code.

Only a few months later, the steel basing point system came to the fore when the Federal Trade Commission, in response to Senate Resolution No. 166, prepared a report on the "Practices of the Steel Industry Under the Code" (*). In this report the Federal Trade Commission expressed the view that the multiple basing point system as incorporated in the steel code was hardly less objectionable than the Pittsburgh single basing point system which the Commission's Order of 1924 had declared to be in violation of the anti-trust laws. This stand taken by the Federal Trade Commission did not lead to any immediate change in NRA's attitude toward the matter. However, the steel code had originally been approved for a trial period of 90 days only, had then been extended for another trial period of about six months, and came up for final approval on May 31, 1934. In connection with this final approval of the code, the matter of basing points was in the focus of attention. Amendments to the code increased the number of basing points for several iron and steel products. At the same time the Executive Order of approval, signed by the President on May 30, 1934, made the following statement:

> "Conditions of economic emergency make necessary the retention in modified form of the multiple basing point system adopted in the original code and effective in the industry for many years. But the additions made in this Code, increasing substantially the number of basing points, and modifications in practice under the Code, while alleviating some of the inequities in the existing system, illustrate the desirability of working toward the end of having prices quoted on the basis of areas of production and the eventual establishment of basing points coincident with all such areas, as well as the elimination of artificial transportation charges in price quotations. Therefore, I have directed

(*) Cf. Senate Document No. 159, 73rd Congress, Second Session, Practices of the Steel Industry Under the Code, March 30, 1934.

> the Federal Trade Commission and the National Recovery Administration to study further and jointly the operation of the basing point system and its effect on prices to consumers, and any effects of the existing system in either permitting or encouraging price fixing, or providing unfair competitive advantages for producers, or disadvantages for consumers not based on natural causes. I have requested that the results of this study be reported to me within six months, together with any recommendations for revisions of the Code, in accordance with the conclusions . . reached."(*)

On the basis of this Presidential Order, the Federal Trade Commission and a special committee of investigators appointed by NRA made preparations for a joint study of the basing point matter. However, the differences in point of view between the Federal Trade Commission and NRA were so material that the only feasible line of approach proved to be separate continuance and completion of the studies undertaken by the two agencies. The results of the two studies differed substantially. In its "Report to the President With Respect to the Basing Point System in the Iron and Steel Industry", submitted November 30, 1934, the Federal Trade Commission made the following statement: (**)

> "The Commission is profoundly of the opinion that there is no sound, economic foundation for the system of price fixing, whether it results from the cooperative activities of industry or whether it be imposed upon industry by governmental action."

The basing point system was considered by the Commission to be essentially a device for price fixing. The Commission therefore recommended that the iron and steel code be changed to eliminate provisions falling within the following classifications:

(a) Provisions giving express sanction to the multiple basing point system;
(b) Provisions in aid of price fixing; and
(c) Provisions relating to regulation of production and new capacity.

The results reached by the Committee of the National Recovery Administration upon the study of the operation of the basing point system in the Iron and Steel Industry can be summarized as follows: (***)

(*) Cf. Report of the National Recovery Administration on the Operation of the Basing Point System in the Iron and Steel Industry, November 30, 1934, page 1.

(**) Report of the Federal Trade Commission to the President In Response to Executive Order of May 30, 1934, With Respect to the Basing Point System in the Steel Industry, November 30, 1934, pages 38 to 42.

(***) Op. cit., pages 89-91.

Not all the criticisms of the basing point system were justified in the terms in which they were made. It was, however, found to be true that the basing point system did not tend to as serviceable a form of competition as a system in which there is more incentive for a producer to lower his base price as a means of extending his sales area, and that certain purchasers were burdened with artificial freights. On the other hand, radical changes, such as the introduction of f.o.b. mill selling, seemed to be too uncertain and disturbing in their effects to be seriously considered without exhaustive inquiry.

Therefore, the incorporation in the Code of a group mill-base system was recommended. This group mill-base system implied the establishment of a basing point for each group of mills or single large mill in such a way that no mill of an annual production capacity of 20,000 tons or more would be more than 50 miles distant from a basing point. At the same time it was recommended that, in order to cope with the problem of unnecessary cross hauling, the permissible amount of freight absorption should be limited to $5.00 per ton.

No final decision as to further action on the steel code had been reached when the Schechter decision abrogated all NRA codes.

In the case of the lime industry, the code for which was approved on October 3, 1933, a multiple basing point system had been established and sanctioned by NRA. Provisions was made that the Trade Relations Committee of the Code Authority, prior to the expiration of a four month period, should make to the President a report and recommendations as to the effect of the basing point system upon prices and other industry conditions.

On February 7, 1934, the Code Authority submitted such a report, in which it expressed the conviction that the basing point system had proved highly beneficial for the lime industry. However, on April 1, 1935, the Administration, in approving certain important amendments to the lime code, directed the Research and Planning Division of NRA and the Trade Relations Committee of the National Lime Association to make a further study and report fully to the National Industrial Recovery Board as to the effects of the multiple basing point system. This report was not finished at the time when the Supreme Court decision terminated the validity of NRA codes. The report is available at the present time as one of the publications of the Division of Review and shows that the Research and Planning Division had concluded that the basing point system, in combination with other marketing practices used by the lime industry, tended to some extent to favor the expansion of the larger producers, to facilitate the freezing of lime prices at a high level, and to discriminate in some cases against certain groups of consumers. At the same time, it was believed that a discontinuation of the basing point system would not represent a solution of the problems of the industry, which were found to be too complex to be solved by any simple remedy. Therefore, further investigation of the industry and its main production and distribution problems was recommended in order to shed light more fully on action which would reconcile the interests of the industry with the principles of public policy. (*)

(*) Cf. the Report on the Operation of the Multiple Basing Point Provisions in the Lime Industry, Division of Review, Work Materials No. 9864

In the cases of the cast iron soil pipe industry and the cement industry, the attitude of NRA was that the basing point systems used by these industries did not rest upon any code provisions and if they were illegal the government had its legal remedies elsewhere, outside the National Recovery Administration.

In all of these cases, as well as with respect to basing point systems established by some of the subdivisions under the Lumber and Timber Products Industries' Code, it appears that no full agreement existed between the different branches of the Administration. In several instances, the Consumers' Advisory Board expressed the view that basing point systems tended to increase the prices which the consumer had to pay, and recommended that the Administration, as a minimum requirement, insist on a number of basing points sufficient to prevent the inclusion of a substantial amount of fictitious freight in final delivered prices. At the same time, some of the deputy Administrators in charge of industries with basing point systems were inclined to regard these systems as necessary for a solution of the marketing problems of the industries in question, or at least as not in conflict with the public interest. For instance, the deputy administrator in charge of the cast iron soil pipe industry, Mr. King, in reply to a memorandum submitted by the Federal Trade Commission in regard to the Birmingham basing point system used by this industry, made the statement:

> "In any event, I am not satisfied that the basing point system is an evil." (*)

Under these circumstances of substantial uncertainty as to the fundamental aspects of the matter, the course taken by the Research and Planning Division in undertaking thorough statistical and economic analyses of the conditions in each of the industries in question seems to have been desirable. The above-mentioned Report on the Iron and Steel Basing Point System with its comprehensive statistical appendices and the Report on the Multiple Basing Point System in the Lime Industry were steps toward clarification of the basing point problem.

(*) Cf. Memorandum submitted to NRA by Federal Trade Commission on January 28, 1934, and reply of NRA, NRA Consolidated Files, Cast Iron Soil Pipe Industry.

IV. BRIEF ANALYSIS OF SOME IMPORTANT ASPECTS OF THE OPERATION OF GEOGRAPHIC PRICING METHODS.

A. Introductory Remarks Regarding Location of Industries and Transportation Cost.

Conditions in the various basing points and uniform zone pricing industries suggest that, first, the occurence or cheap assembly of raw materials and, second, the proximity to markets, were the basic factors in determining the location of producing units. The pricing practices in use in these industries, such as basing point or zoning systems, appear to have modified the geographic location of producing facilities but little. They have not been the cause but rather the effect of the geographic distribution of production and markets and must be understood as methods adopted by the industries in question because of their suitability to structural industry conditions which had developed for independent reasons.

In the case of the salt and the lumber industries, it is self-evident that the natural occurence of salt mines and timber lands determined the geographic location of the places where production could take place. In the iron and steel industry it was predominantly the combination of iron ore and coking coal supplies which was decisive for the choice of blast furnace sites and, as the continuous process of crude iron and steel making and steel rolling, because of the heat economies effected, began to replace older methods, the tendency was to concentrate steel convertors and furnaces and rolling mills in the same location with blast furnaces. At the same time, specialized finishing mills, the markets of which are in the main concentrated in certain areas, displayed a tendency to select locations in proximity to their chief markets. The Pittsburgh single basing point system which was in use until 1924 undoubtedly placed non-integrated steel fabricators in districts distant from Pittsburgh under a serious handicap as compared with their competitors located freightwise nearer to Pittsburgh and their integrated competitors. It is probably that the abolition of the Pittsburgh single basing point system caused an increase in the number of independent fabricators in districts outside the Pittsburgh area, yet the extent of this development seems to have been limited, due to factors which promoted the growth of integrated rather than non-integrated establishments.(*)

The location of mills in the cement industry was, in the early stage of the industry's development, determined by raw material resources, since only the cement rock found in the Lehigh Valley was thought to be suitable for Portland cement making. Subsequent experimenting, however, established the fact that limestone deposits of a kind, together with other raw materials, which aggregate assembly are to be found in certain sections through the country, are capable

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(*) Limitation of time has prevented a full investigation of this point, hence the statement in the text is set forth as merely a probably hypothesis. For further information pertaining to this matter see Chapter III, Section II, infra.

of serving as raw material for Portland cement. Since that time proximity to consuming centers and favorable transportation facilities have been, at least, as important as the availability of limestone and cheap fuel. The multiple basing point system as used by the industry does not appear to have contributed appreciably, if at all, to the shaping of the geographic pattern of scatter of cement mills. Similarly, the location of plants in the lime industry has been determined by the occurrence of a certain type of limestone in combination with cheap fuel supplies and strategic position with respect to railroad or waterway connections and proximity to large markets.(*)

In general economic terms, the geographic location best suited for a producing unit in any industry is one at which the aggregate of raw material assembly, production and distribution costs will be the lowest possible. The importance of geographic location is accentuated or diminished as the unit freight cost of the product is greater or lower, depending upon its bulk and weight. If this cost is relatively high, its importance as an element in delivered price to the consumer will, of course, be greater, and the problem of geographic pricing practice more difficult and complex. If this cost is relatively low, its effect upon delivered prices will be to establish, if any, only negligible price differentials, which may be disregarded by buyers (particularly buyers of fabricated consumers goods), whether they buy f.o.b. mills or delivered; or the producer may be able to establish a uniform delivered price to all buyers wherever located without resistance from the more favorably located (as with magazines, cigarettes, etc.); or, finally, brand preference and difference in quality of the products sold or services rendered may and often do outweigh considerations of higher cost with the result that consumers buy without regard to a geographic price differential f.o.b. mill or delivered. On the whole, freight costs assume a lesser importance where a product is not highly standardized.

Given, however, a standardized product which, because of its bulk or weight, incurs relatively heavy unit freight charges; given, secondly, an industry situation as described, with concentration of producing units in one or a number of areas desirable as a result of the character of sources of supply, and with heavy overhead costs, there arised the problem of what markets a particular producer as distinguished from other producers in the industry is economically equipped to serve. The economic delimitation of the markets of such producers can become a problem first because of the excess of their productive capacity (at optimum size) over demand in their immediate (surplus) markets; second, because of the excess of consumption over supply in other (deficit) markets. (These deficit markets exist, of course, precisely because of the concentration of producers at certain points.) Its

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(*) See the above quoted Report on the Basing Point Provisions in the Lime Industry, Work Materials No.

solution will depend upon some determination of relative ability to deliver products in non-producing and, to a certain extent, in other producing areas at low cost and low price. Such a determination must take into account not only the cost of transportion from mill to consumer (varying with respect to freight tariffs - blanket and other - in effect and different modes of transportation employed, as well as distance of shipment), but also the producer's cost at the mill when operating at an optimum size which may or may not require shipment over an extended area.

In short, relatively high freight costs per unit of weight and shipment do not alone warrant the exclusion of any producer from any market; there may be an offsetting lower f.o.b. mill price, which in turn may be the result of operation at a volume of production which would be impossible without shipment to distant markets at relatively heavy transportation expense.

The soundness of any of these factors, of mill location, transportation distance and costs, markets served by particular mills, etc., is to be judged by the extent to which each contributes to a minimum total cost and price of the industry's products to all consumers in all markets. Certain subordinate considerations are involved, but an examination of these later in the analysis will show no essential conflict between them and the principle here stated.

Methods of pricing products, f.o.b. mill and delivered with various modifications, have the effect of determining what part of transportation costs individual buyers variously located must bear in the delivered cost, or price, of the commodity. Since, as employed by individual producers or by members of an industry generally, these methods also to a large extent determine the markets to which a producer may ship, his share in those markets and the degree to which he can expand his manufacturing operations and capacity, they are subject to the same test of soundness as the other factors mentioned. This will be clear from the following analysis of the operation of of the various pricing methods.

B. Analysis of the Operation of Various Geographic Pricing Methods

All geographic pricing methods, as stated above, determine what freight costs each buyer must bear in securing the product. A price f.o.b. the selling mill means that the buyer pays in freight the precise, actual transportation cost from mill to destination point upon each transaction. This is also the effect of delivered prices which are composite of f.o.b. mill price plus actual freight. Other methods of delivered pricing lead either to the payment of an average freight cost by all buyers or by buyers within defined zones, or to the payment of freight based on distance from some production or distribution point or center, whatever the actual distance from producer to consumer may be, or to the payment of an equalized freight from the nearest selling mill regardless of the location of the mill

from which the purchase is actually made. All of the latter methods of delivered pricing result in a majority of consumers paying not the actual freight costs upon the particular transaction, but some amount more or less than actual transporation cost.

1. F.O.B. Mill Pricing.

A number of codes as approved by NRA provided for pricing on an f.o.b. mill basis. None of these provisions appears to have given rise to problems comparable in importance to the problems surrounding basing point, zoning and freight equalization provisions. Hence, a study of industries with f.o.b. pricing has not been included in the present report, the preparation of which has been hampered severely by limitations of time and personnel. However, a few remarks regarding some basic aspects of f.o.b. mill pricing will serve to contribute to a better understanding of the matter of geographic pricing practices in general.

Under this method identical prices are quoted at the mill to all buyers wherever located; the buyers then bear the precise actual freight charges on each transaction to destination point.

With prices set thus, a mill can sell in its immediate market and in contiguous markets only to the point where its mill price plus freight does not exceed the mill price plus freight of some other producer selling in that market.

If the capacity (in production) of a mill in addition to the operating capacities of all other mills at the same point is less than sufficient to supply the demand at that point, the mill (and other mills there located) will sell at the market price as set by some outside marginal supplier, representing that supplier's mill price plus freight to the market. The home mill will thus take advantage of its position at the market in one of two ways. If it is a relatively high-cost mill, its mill cost disadvantage will be eliminated, thus permitting it to remain in the market; if it is a low-cost mill it will reap the benefit of correspondingly high profits. There is the further possibility that a home mill has a mill cost in excess of the mill prices of outside producers plus freight into the market, in which case such a home mill must sell at a loss and ultimately retire from the industry.

In any case, under such circumstances, where an outside mill establishes the price in any deficit market, it is obvious that no advantages accrue to the consumer from the location of certain producers at the market, whether these producers be high or low cost producers. F.O.B. mill prices for the home producers will either contain an excess profit element equivalent to the freight from the mills of the outside marginal suppliers or will contain an element of cost which approximates this and represents, in effect, a subsidy to the relative inefficiency of the home mill.

On the other hand, if a mill, with other mills located at the

same point, is able to supply in excess of the demand at that point, it will have to ship a part of its product into other markets. Under f.o.b. mill pricing, it can ship only so far as its mill price plus freight does not exceed the mill price plus freight of some other producer selling at that point. This meeting with the products of competitors sets at any one time rigid limits upon the mill's market in every direction.

In order to extend its market the mill has no alternative to a reduction in its f.o.b. mill price, barring increases in f.o.b. mill prices by its competitors. The possibility of such a reduction without loss hinges upon (1) excess of previous mill price over cost, (2) extent of economies obtainable through increased volume. Even if the f.o.b. mill price is originally in excess of cost, successive reductions in the process of extending the market will finally bring it down to the level of cost. Moreover, economies obtainable through increased volume reach a point of diminishing return and eventual cessation. For these reasons it is impossible for a mill to extend its market upon an f.o.b. mill price basis beyond certain not too flexible limits, even by reducing its f.o.b. mill price, unless that price is reduced to less than cost and the mill sells at a loss. An industry condition which incites or forces sale at a loss by many producers, as in a declining market, of course destroys these limits, and results by a spiral process in unrestrained cross-hauling and wide-spread mutual invasion of markets. However, reductions in mill prices for the purpose of extending the market ordinarily will not be made, if the net income derived from additional sales is not greater than the net income sacrificed in the mill's immediate market.

The practice of pricing f.o.b. mill may, in summary, be said to have several sifnificant effects. First, if any market in which the mill or group of mills there located is able only to supply the demand or a part of the demand, and ships none (or a negligible amount) of its output to other consuming areas, there are present conditions which may foster a local monopoly, a price structure inflated much above cost, or the continued existence of inefficient, uneconomic producing units. This is particularly true where the market is relatively distant from other production centers, since producers from these centers cannot enter into effective competition with the local producers until the price established by the latter reaches the outside producer's mill price plus freight. If the home mills are able to supply consumption in their own market, they need only set the price just under this composite of outside mill price plus freight in order to effectively exclude the outside producer,, regardless of the relation of that price to cost.

Second, where a mill or group of mills at a certain point produces in excess of consumption at that point any effort to find a market for the surplus is restricted by the impossiblity of absorbing freight upon any shipment; thus, the mill cannot hope to extend its market beyong a rough circle at the circumference of which other mills will be selling at a lesser aggregate of mill price

plus freight. Only willingness of the mill to sell at an f.o.b. mill price below cost removes these limitations and permits shipment to more extended markets.

Finally, with the fixation of f.o.b. mill minimum prices on the basis of some industry average cost protection scheme it is possible that in certain industries individual mills may not, under these restrictions upon market expansion, be able to achieve optimum capacity and output and lowest unit cost. Furthermore, it is possible that the economies obtainable from increased volume may not keep pace with the f.o.b. mill price reductions necessary to obtain that volume in more distant markets. In such a case only the absorption of freight on sales to the more distant markets would permit the mill to adjust its operation to the attainment of the optimum volume of production and the lowest per unit cost.

No general conclusion as to the soundness of this method for any industry may be inferred at this point in the analysis pending an examination of other pricing methods. Tentatively, it may be desirable in certain industries to put such restrictions upon extension of markets, while undesirable in others.

It is important to note that the operation of f.o.b. mill pricing is seriously modified by established blanket freight rates, by rail, cargo, truck or other modes of transportation. Such rates have the effect of averaging the freight costs of groups of shippers or consignees from origin zones or to destination zones, of shifting real freight cost absorption on certain shipments to the carriers, which of course, receive excess freight upon others.

2. Delivered Pricing (based upon other than actual freight charges)

The method of delivered pricing can become an instrumentality for unlimited price cutting and discrimination between different sales areas, if delivered prices are quoted without regard to actual freight cost, but merely in an effort to widen the sales territory of some mill, even at very low net yields. This method, or absence of method (as for instance, in the lumber industry prior to the NRA code) is responsible for extensive and wasteful cross-hauling with attendant increased freight costs to the industry. It is difficult for any producer under such circumstances to gauge his probably average net yield at the mill, or to estimate at any time with any degree of accuracy his profit or loss in total sales. Such delivered pricing with freight equalization ad libitum is unsystematic, disorganized, characteristic of a depressed industry, the product of which is being marketed in more or less chaotic fashion very frequently at a net loss.

Systematic freight equalization may take any one of several forms. The principle underlying all types of freight equalizations is the following. In quoting delivered prices to any distination point all

producers wherever located are to be on a basis of equality with respect to freight charges as an element of price, this equality being achieved through the quotation of all prices delivered at that point on the basis of freight from some common point. Thus in selling to any distination producers at a greater distance than the point from which freight is figured must absorb the actual excess freight incurred from their own mill or shipping point. The absorption reduces the mill net yield received (which is delivered price less freight charges paid) by the amount of this excess. On the other hand, if the mill is located closer to destination than the point from which freight is figured, its delivered price will include an element of "fictitious" freight in excess of freight costs actually incurred in shipment.

(a) Basing Points and Freight Equalization.

As has been discussed above, the point from which freight is figured in arriving at delivered prices is the "basing point" for that destination and for all destinations at which price is similarly reckoned. In any industry the number of basing points may be equal to or even larger than the number of points at which mills are located, or it may be less, or there may be only one such point. The basing point systems in such industries are known as "multiple" or "single" accordingly.

The significance of codification under NRA was very different for the various basing point industries here considered. In the iron and steel industry a multiple basing point system had been in use ever since the Federal Trade Commission Order of 1924 had directed the industry to cease and desist from the use of the Pittsburgh single point basing system. The incorporation of the multiple basing point system in the steel code had, in the main, a fourfold effect. First, the basing point practice was given legal sanction and thereby made strictly enforceable. Second, as a list of all basing points for all products was made part of the code, all doubt was removed as to whether a specific point was or was not to be regarded as basing point. The basing point structure was made rigid, since only the formal procedure of amending the code could effect changes in the number of basing points. At the same time, the number of basing points was increased for practically all industry products as compared with the use of basing points before the code (though no quite determinate information exists with respect to the pre-code situation). Third, the combination of the basing point practice with price filing proved to be of greatest importance for the implementation of the practice. It practically guaranteed the general adherence to the system, through industry-wide publicity of the prices quotes by any industry member. Fourth, the code provisions preventing industry members from undercutting the lowest price on file at any basing point other than their own basing point (that is, the basing point freightwise nearest to the plant in question) eliminated "dumping" into more distant markets and thereby greatly contributed to stability of the price level.(*)

(*) For further information as to the iron and steel industry see Chapter III, infra.

In the case of the lime industry NRA sanctioned the establishment of a basing point system which had not existed before the code. Certain lime producing points (as, for instance, York, Pennsylvania, and a few others) could be compared to basing points for a restricted area in the pre-code period, as the railroad freight structure had instituted blanket rates for the district surrounding them. The practice of equalizing freight with competitors located freightwise nearer to the customer had been in use in pre-code days, but the adoption of a general basing point system was admittedly an innovation. The code empowered the District Control Committees (one of them being established for each of the thirteen districts into which the country was divided) to set up basing points for their respective districts, thereby making the basing point structure less rigid than the steel code which made the basing points themselves part of the law. A later amendment to the code provided that any industry member was authorized to establish his own plant as a basing point, if he so chose. This amendment seemed to inject further flexibility into the system. However, no lime producer availed himself of this privilege during the entire code period. Quite similar to the steel code, the lime basing point practice was effectively implemented through price filing; likewise a provision prohibiting "dumping" into basing point areas outside the producer's own area was in force. A provision restricting freight absorption on sales to distant basing point areas (at a price there on file) to 20 per cent of the seller's own basing point price was stayed by the Administration. (*)

The cement industry and the cast iron soil pipe industry used basing point systems (and for modifications thereof) for a long time prior to NRA and continued to use them under NRA though without incorporating them in their respective codes. In both cases, however, the price filing adopted by the code contributed to an effective implementation of the basing point practice through publicity of the prices filed by industry members, in the cast iron soil pipe industry as of the single basing point Birmingham, in the cement industry as delivered prices for each individual destination. As to the latter arrangement, freight rate books indicating the rates in force between the different basing points and destinations make it easy to ascertain upon what base price any quoted delivered price is built.

The multiple basing point system in the cement industry is interesting because of a combination of traits of flexibility and of rigidity which it displays. There are 77 companies with 165 mills in the industry. Out of these 165 mills 50 are owned by the five largest companies. (**) The number of basing points

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(*) Cf. the above quoted Report on the Lime Industry.

(**) Cf. Table 67 in the Appendix.

is not laid down in any list or rule, but any industry member is free to use either his own or another cement mill as basing point for his transactions or to discontinue such use and change to another basing point at any time he chooses. Practically, however, the great majority of the basing points are at locations where one of the five largest companies has a mill. Smaller companies are reluctant to make their mills basing points because of the increased exposure to price competition which accompanies such a step. It is interesting to note that due to the intensified inducement to price cutting in the depression, the percentage of smaller mills among all basing point mills was greater than either before or after the depression. In August, 1931, 65 basing points were known to the trade with 100 mills located at these points. Of these hundred 54 belonged to companies other than the five largest. In August, 1934, the number of basing points had been reduced to 52 with 83 mills at basing point locations. Of these mills only 38 were owned by companies other than the five largest. In both years the number of basing point mills controlled by these five largest companies had remained unchanged at 45.(*) Approximately 75 per cent of all cement is produced at basing points.

All the basing point industries here discussed have a significant set of problems in common. Because of the great importance of freight in delivered prices (due to the heavy, bulky character of their products) freight absorption on sales to more distant destinations was a frequently used focus of price competition. Especially in times of shrinking markets and overproduction such absorptions mounted high, brought producers into remote markets where they scarcely had sold before, intensified the struggle for business volume everywhere and contributed greatly to demoralization of prices. Wherever a company or group of companies had grown to a position sufficiently powerful to exercise some control over industry conditions and prices, they found the best expedient to cope with price cutting based on freight absorptions in the adoption of a basing point system. If all producers quoted their basic prices as of a certain point or a limited number of points and had to apply the freight rates from this point or points, control over the price structure become technically much simpler. The price structure for the country as a whole was necessarily the highest whenever a single basing point system was in operation (such as Pittsburgh-Plus in the steel industry) due to the addition of freight calculated from this one point to all destinations in the country. Unless too high prices reacted unfavorably on the volume of sales,

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(*) Based on information submitted to the NRA Research and Planning Division by the Cement Code Authority, NRA consolidated files, Cement Industry.

all industry members profited from such a system. The ones located at the basing point gained primarily in business volume, since they could ship everywhere without having to absorb freight. The ones in outlying districts gained primarily in price, since they charged "fictitious" freight on all sales in their location or in locations away from the basing point. If they sold to destinations closed to the basing point than to themselves, they had to content themselves with decreasing mill net yields. It was, therefore, mostly the increase in size of producing establishments in outlying districts (the Great Lakes region and Northern Alabama for steel, all districts outside the Lehigh Valley for cement), the pressure exerted by heavy overhead for more volume rather than for a better price on a restricted volume, which aroused the interest of those outlying producers in additional basing points. After such new basing points were established, two different considerations entered into the price policy of the producers located at the different basing points. They desired high base prices in order to obtain high net yields on the sales based on their own respective basing points, but they were afraid to make the base prices too high, lest they invite shipments from outsiders into their home territories. Again, non-basing point mills were favored through "fictitious" freight charges on sales to destinations closer to themselves than to the governing basing point, and were at a disadvantage with respect to sales in the vicinity of basing points where they had to absorb freight. From their point of view the basing point system was desirable or undesirable, dependent upon whether the greater proportion of their sales took place in territory freightwise nearer to themselves or to the governing basing point, and accordingly, fell under the category of high or low net yield transactions.

In attempting to appraise any given basing point system a number of different points of view must clearly be distinguished. From the point of view of the consumer it is of primary importance that not more transportation cost is saddled upon him than is consistent with the attainment of the lowest possible sum of total production costs (of plants at optimum size and optimum rates of operation) plus total freight charges. From the point of view of producers it is important that basing points are so distributed that the large-scale producers can obtain sufficient volume and the smaller producers do not have to absorb freight and content themselves with relatively low net yields on a great proportion of their sales. As to the absolute level of the prices prevailing under a basing point system and their degree of rigidity, it should be borne in mind that the abuse of the leadership position of companies excelling by size and financial strength is responsible for too high or too rigid prices and that this position could be abused even without any basing point system. If such abuse occurs, the abolition of practices such as basing point pricing cannot successfully cope with the situation. Only measures more fundamental in character and aiming at reforms in the structure of the industry situation could be regarded as appropriate remedies. An orderly basing point system does not need to be in conflict with the basic interests of consumers and the different classes of producers and can have the advantage of

introducing simplicity and clarity into the price structure.

A few additional general remarks may contribute to a further elucidation of the characteristics of basing point and freight equalization systems.

The establishment of a multiple basing point system under competitive conditions and without the imposition of rigid rules and regulations by a controlling group in the industry will ordinarily follow what is known as the "basing point formula". According to this formula (which in its theoretical pureness is nothing more than the expression of a principle of competitive economic activity) the delivered price at any destination point will be the lowest composite of mill price plus freight to that point, and the location of the mill which is able to quote this price becomes the basing point for that destination and for any other destination at which it likewise sets delivered price. Any other mill in order to sell in the market embracing all of those destination points must meet this basing point mill's delivered prices there. In the same manner, the mill which is a basing point for one market must, in selling outside that market, meet the lower delivered prices set by other basing points. If the basing point formula operates without artificial restrictions, the structure of basing points will be flexible, that is, when at any destination point the mill price plus freight of a non-basing point mill becomes lower than the delivered price of the basing point mill, the latter is superseded, unless it sufficiently reduces its own mill price. New basing points and new delivered prices are established with a frequency which bears a nearly direct relation to changes in the cost and price structure of the industry and the freight rate structure applicable to the industry's products.

This formula does not operate where the number and location of basing points is fixed by industry agreement, by a controlling group within the industry, or by law (in the form of an industrial code or otherwise), and is enforced by the application of sanctions, legal or non-legal. In this case delivered prices for all producers at all destinations are calculated at a uniform mill price at the established basing point for any given territory (or from a single basing point for all markets) plus freight to destination. Cost reductions effected by producers at or away from the basing points have no effect upon the basing point structure; this is fixed until altered by the controlling group which established and enforces it. The system is frozen, is not susceptible to and may not be modified by the action of free price competition. The principle of freight equalization is applied, but equalization with certain mills, producing or basing points is required, without automatic adjustment to changes in the relative cost position of these mills or centers in the industry. Where basing points are maintained artificially under industry or government control, much obviously depends on the efficiency and elasticity of that control.

Whatever the method of freight equalization in use, its essential

principles and functions will be the following. It will operate primarily to permit mills to enter certain markets, which would be closed to them under a method of f.o.b. mill pricing, and to compete therein on a delivered price basis which makes ineffective transportation cost as an impediment to geographical extension of competion. It will do this, as stated, by establishing all mills selling in these markets on a basis of equality to the buyer with respect to freight charges as an element of delivered price. It cannot eliminate geographical or transportation cost disadvantages, but it removes them as a bar to extension of markets. In this process mills will necessarily obtain varying mill net prices from buyers variously located. Some of these mill nets will be higher than actual unit cost at the mill, some may be lower; the average should equal unit cost or exceed it, unless the mill is selling at a loss. As mills extend their markets and ship at greater distances through the use of equalization, freight absorptions necessarily increase; the greater the absorptions, the greater the cost of the system to the industry. If such increased shipping cost is not offset by cost economies attendant upon large-scale production, but its recovery is attempted through the charging of higher base prices, the possibility of imposing this inflated cost upon consumers will depend largely upon whether the market for the industry's products is a buyer's market or a seller's market.

Difference between the several types of basing point and freight equalization methods lead to the following analysis of their relative advantages and disadvantages.

A primary consideration is the economical location of the basing point. As we have seen, a system of multiple points established, maintained and adjusted to changed industry conditions by the spontaneous or calculated application of the so-called basing point formula, will locate a basing point wherever there is a mill which is able to quote lowest delivered prices at surrounding destination points. No mill can hope to enter a market or to sell at any destination point for which its f.o.b. mill price plus freight is higher than the delivered price in effect there, unless (excluding the possibility of a mill price reduction) it overcomes its net freight cost disadvantage by freight absorption. It, therefore, appears that all mills must equalize with those mills which establish the lowest delivered prices at various destination points. The locations of the latter mills must be basing points. All points so determined by the free application of the formula may be considered to be economical.

Where the number and location of the points is fixed and maintained artifically by some controlling agency the question arises as to whether such a rigid basing point structure is justifiable. The formula is inoperative; in the absence of competitive selection of the basing points much obviously depends on the wisdom and efficiency of the administrators of the system. If they force equalization with a point at which it is economically unnecessary and fail to permit equalization where it would otherwise occur, thus ignoring a natural basing point

and requiring mills at that point to sell at delivered prices including freight from some other basing point, they thereby put the delivered prices of economically differentiated groups of producers on a false parity with each other and unnecessarily relieve consumers in one area from part of their freight costs while saddling upon consumers in other areas equalizing charges in addition to their actual cost of transportation.

In view of this danger it may be considered of doubtful soundness to fix or freeze the basing point structure under artificial control, however competent those in control may be. We must recognize, however, that in certain industries circumstances may make it impracticable for the forces of free competition to operate, where their operations would be apt to result in dislocation of the basic structure of the industry and, it may be, of important related industries as well. This possibility is a paramount consideration where a large basic industry, in the prosperity of which many lesser industries are involved, is established and built upon an artificial basing point system. It is well to remember that although the application of the basing point formula may usually be considered satisfactory when freight equalization is required, it assumes the existence of free competitive formation of prices and selection of basing points; in certain industries free competition may be non-existent and for practical purposes unattainable.

The foregoing analysis leads to the following conclusions about the location of basing points. In general, the points should be located at producing centers, the mills at which are fully able to supply consumption needs in the immediate trade areas and characteristically ship in volume into adjoining and distant markets. No mill location should, ordinarily, be a basing point if the mill or mills there situated are relatively high cost mills which are unable to supply more than a part of the demand at that point.

Another consideration of great importance in weighing the relative advantages and disadvantages of the various methods of freight equalization is the extent to which each contributes to uneconomic distribution of shipments and excessive transportation costs in the industry. By uneconomic distribution of shipments (of which "crosshauling" is a special case) is meant the supplying of a market with products from other markets which precisely as demanded might have been obtained at lower delivered cost either in the home market or from freightwise less distant markets, as evidenced by shipment in sufficient quantities of the same product out of the home market or the less distant markets. Such uneconomic hauling will be very little impeded under any method of equalization (without mandatory limitation upon freight absorptions), but is apt to be most extensive where equalization is not applied upon economically located basing points. Under this condition artificially high delivered prices at certain points are possible for mills which otherwise would never sell there; these markets are invaded by foreign mills, absorptions are increased, uneconomic long-distance hauling incited, the industry's transportation costs raised. The extent to which this may proceed is undeterminable in theory and depends largely upon circumstances in particular industries.

(b) Uniform Delivered Prices.

Other methods of delivered pricing establish uniform delivered prices for all consumers and destination points either in the entire country or in defined zones and destination groups. Among the industries studied only the Mahogany Division under the Lumber and Timber Products Industries

Code employed this method. (*) All such methods are based upon some determination of a weighted freight cost upon all shipments into the territory from all producers supplying the territory. The basis for the calculation of the average will not be touched upon in this analysis, since it is essentially a statistical and mathematical problem. It is sufficient to say that unless the average be accurately calculated and exactly weighted such a method will create one maladjustment after another and will eventually collapse of its own weight.

A system of uniform delivered prices is improbable as the outcome of free competition; it will ordinarily be the product of industry agreement or of group domination within an industry. (Here again a standardized product incurring relatively heavy freight costs per unit of weight and measurement is assumed.) Under free competition it is unlikely that the advantage of all producers at all times will be secured by the quotation of one price to all buyers either within zones or wherever located; some producers are certain to find it more profitable to confine the greater part of their sales to local or sectional markets, the limits of which do not conform to the limits of the zones. In doing so they will find it undesirable to quote a uniform delivered price based upon an average freight cost to all consumers and destination points, for the reason that they will not ship to many of these points. Lower delivered prices which are in some way related to transportation costs to the less extended markets which they wish to cultivate, will much better promote their interest in those markets. And, where uniform delivered prices break down locally and sectionally by the action of certain producers, it becomes unprofitable and impracticable for other producers to attempt to maintain prices on this basis, because if they do this, prices will contain an element of freight cost to markets from which they are excluded by the departure of producers in those markets from uniform delivered pricing. Protection of the markets in which they themselves have a freight cost advantage then requires reciprocal abandonment of uniform delivered prices, making possible lower prices to these markets.

Where free competition exists these factors should ordinarily either prevent the establishment of uniform delivered pricing or cause its abandonment shortly after adoption. In the absence of such competition, where collective action imposes the method upon the industry, the same considerations should operate to induce repeated and widespread departures from it and its eventual collapse, unless powerful sanctions are invoked by the controlling groups.

Where uniform delivered prices are set by zones obviously the precise definition of the zones is required, according to what those in control consider their proper limits to be. An accurate determination of average transportation costs to all destination points from mills supplying these points, weighted by quantities shipped, is necessary. Each of these problems presents great practical difficulties; each is subject to the criticism that any solution, however wise, is necessarily static and cannot be rapidly adjusted to shifts in production and consumption, shifts in quantities supplied various markets by various producers.

(*) The same method was employed temproarily by two minor sub-divisions of the same code which were not included in the scope of this report. For further information as to the Mahogany Division see Chapter 110, Section III, infra.

Uniform delivered pricing more than any other method of delivered pricing nullified the effect of geographical location and transportation costs in establishing price differentials between consumers. To a uniform mill price is added a uniform freight cost, to obtain a composite uniform delivered price. This means that, as was the case with the several methods of freight equalization, absorptions of freight are necessary in selling to some buyers, additions of fictitious freight in selling to others. If these absorptions and additions do not balance, the mill (or the industry) is either operating at a loss or receiving excess profits.

Uniform delivered pricing has further the following important effects. Like other methods of delivered pricing examined, it permits producers to extend their markets beyond the limits permitted by f.o.b. mill pricing. Like them it does this by allowing freight absorption which in most practical cases will be restricted to that portion of delivered price which represents fixed (overhead) costs as opposed to out-of-pocket expenses. This privilege is necessarily accompanied by the possibility of extended uneconomic hauling, waste in the transportation of the industry's products, and increased freight cost which consumers must bear unless the industry is so depressed as to be unable to obtain prices equivalent to costs. If producers in any one zone may sell in all other zones at the delivered prices for those zones, uneconomic long-distance hauling may be restricted by the impossibility of absorbing sufficient freight to permit entering the more distant zones; such interzone sales as are made will involve heavy absorptions. Where producers in one zone may not meet delivered prices in other zones, but are required to add freight to their own zone delivered price, they are in effect excluded from those markets. In either case uneconomic hauling is likely to be less extensive than under a system of uniform delivered prices for the entire country.

Uniform delivered pricing by zones or to all buyers whereever located, is open to another fundamental criticism. When an average freight cost to all consumers has once been established and is used as a basis for selling a delivered price, that average clearly must not be rigid, but must be adjusted to changes in actual transportation costs. With uniform prices to all destinations, considerations of advantageous location with respect to sources of supply and delivered prices of raw materials no longer influence capital in consuming industries in the choice of sites for new production facilities. Thus, it may happen that certain new producing units are set up in such industries at points which are uneconomic at least with respect to sources of raw material supply and necessitate transportation of materials at higher cost. It this possibility is realized, it is inevitable that total transportation costs for the supplying industry will rise to a related extent. This will necessitate a revision of the average freight cost upward, a similar increase in uniform delivered prices. While the process continues, the average and the uniform price will be constantly pushed upward, with increasingly wasteful transportation of the industry's products and possible retardation of demand (if elastic). Whether the tendency will be realized and attain any significance will, of course, depend upon factors and circumstances in the particular industry involved, especially with reference to the rapidity with which new production capacity is set up in the

consuming industries, the relative importance of these consuming industries as markets to the supplying industry and general inter-industry relations.

In summary, this method of delivered pricing has dintinctly uneconomic potentialities and is hampered by serious administrative difficulties which may easily become impracticabilities; nevertheless, its soundness or unsoundness may only be decided with reference to circumstances in particular industries, in some of which these potentialities and impracticabilities may not materialize.

3. Anti-Dumping Zones and Price Filing Zones

Anti-dumping zones and price filing zones differ in their economic significance fundamentally from those geographic pricing practices which bear on the amount and incidence of transportation charges. An analysis of the problems involved in the establishment of such zones leads immediately to the problem of price fixing, a treatment of which is not here intended. (*) However, as an interesting example of anti-dumping zones, the case of the ice industry is presented in Appendix II below.

Regarding the matter of price filing zones, limitation of time and personnel has prevented any study of the industries which adopted this device under NRA. Reference may be made to the report on "Price Filing Under NRA Codes"(**) which suggests that in many of the industries which provide for price filing on a regional basis, the effects were comparable to those of anti-dumping zones. Such filing of prices frequently amounted to a restriction of price competition within the boundaries of the price filing zones and thereby facilitated the stabilization of prices within these zones.

(*) See the Report on "Minimum Price Regulations Under Codes of Fair Competition", Trade Practice Studies Section, Division of Review. Work Materials No.

(**) Price Filing Under NRA Codes, Chapter 5, Price Filing and Geographic Price Arrangements, Trade Practice Studies Section, Division of Review. Work Materials No.

V. CONCLUSIONS AS TO THE ECONOMIC CHARACTER OF THE GEOGRAPHIC PRICING PRACTICES REVIEWED.

Often the question of the soundness of systems of delivered pricing with freight absorption is approached from a point of view which assumes that there is something essentially evil and unsound in the calculation of delivered prices on the basis of other than actual transportation cost on each shipment. That this unsupported assumption may not properly be made will be evident, first, from a consideration of established rates by rail, water, and other carriers, which are often blanketed, zoned or built about certain gateways and not set at actual cost of the individual haul, in recognition of the greater importance of market structure or competitive relations between producers; second, from an examination of the character of manufacturing costs, which often vary considerably between units produced at different times or with different machinery and labor, in the same mill, so that even in the theoretical case of prices being determined by cost, buyers pay in price not the actual cost of the unit purchased, but an estimated average cost for all units (of that type, grade, etc., or frequently even of different types and grades) manufactured by the selling plant.

In recent economic thinking possibilities of monopoly and monopolistic practices have been emphasized frequently in connection with delivered pricing and geographic price discrimination but often loosely and not dispassionately. It must be borne in mind that there are possibilities of local monopoly and excessive local prices under f.o.b. mill pricing which, if they materialize, may be as serious and uneconomic as a quasi-monopolistic condition proceeding from control of an industry by some dominating group within it. It is possible that prices will go higher under a local monopoly than as a result of group action, since the larger members of an industry often, out of an understanding of demand factors in the markets for their products, are unwilling to permit excessive prices which might lead to reduced consumption.

One advantage of delivered pricing often stressed by industries adhering to freight equalization is that it facilitates comparison of prices of competing mills by consumers, who are, of course, interested not in the base but in the delivered price. Where prices are quoted f.o.b. mill such a comparison will often be different even for a company which has an efficient traffic department, because shipments frequently may be routed over alternative lines and combinations of lines. Consumers lacking these facilities will find the problem of routing particularly troublesome and may be expected to err occasionally in the determination of lowest delivered price, except as company prevent this by assisting them in the calculations. The wrong judgment of the consumer will to this extent result in higher delivered prices and higher transportation costs than would be established under delivered pricing. This contention probably has a certain validity, but its importance is relatively minor.

The character of the mechanism which functions in the distribution of an industry's products must be taken seriously into account.

No freight equalization or similar system can be established or long operate, once established, if certain intermediaries (as wholesalers, jobbers, brokers) in the distributive process buy at the mill and ship to destination at delivered prices lower than those established under the producers' system of freight equalization, uniform delivered pricing, etc. This is, of course, true particularly where a fixed basing point system or uniform delivered pricing is in use. The delivered prices quoted by wholesalers will confrom to the basing point or other equalized prices only if these wholesalers are willing to maintain the mill's base prices; but the wholesalers buy at a discount from the base prices and have varying distribution costs.

Similarly, where several modes of transportation are available at varying freight rates and where the use of more than one is practicable, the maintenance of systematic freight equalization or uniform delivered pricing is extremely difficult. Where rates by all carriers are fixed and stable, it is possible, since the effect should be simply to establish delivered prices at particular points on the basis of one method of transportation to that point (the most economical method for the mill setting the price there), or a uniform delivered price based on the most economical mode of transportation to each market. Where the rates of certain types of carriers are not fixed, vary between hauling companies, are arrived at by bargaining, or are subject to violent fluctuations in time, systematically equalized delivered pricing cannot well be maintained. This is particularly true where trucking offers an alternative to rail transportation at widely varying, rapidly changing rates, and to a lesser extent where cargo or inland waterway shipment is possible at rates which (even where there is a conference agreement) are not fixed rigidly and universally adhered to.

The number of producers operating in the industry is a factor of importance affecting the practicability of systematic delivered pricing. Where there are a few relatively large mills, planned methods of pricing and distribution of an industry's products are, on the whole, much more apt to be adopted and adhered to, than where there are many producing units and the bulk of production is accounted for by small operators who have been able to enter the industry by reason of the small amount of capital required, and have found it possible to stay in it, because their size does not put them at too great a cost disadvantage. With the latter condition, if delivered prices are quoted, they will probably bear no fixed relation to freight cost, but will be determined by supply and demand factors in each market (as in many divisions of the lumber industry).

The point has frequently been made that delivered pricing with freight equalization, to the extent that it establishes destination prices which are identical for all producers selling to a particular destination, is necessarily accompanied by an absence of price competition. But such competition is not evidenced by unequal prices for all producers in a market at any one time. Where a product is standardized and prices are openly quoted, it is impossible for a producer to sell in a market at any price other than the one which the competition of a number of sellers establishes there. The essential and significant competition occurs in the formation of the price level and in its responsiveness to changes in market and cost conditions, and has nothing to do with the fact that

all producers must meet it, once it is set.

From the foregoing analysis it cannot fail to be evident that in the problem of the soundness of the several geographic pricing methods certain considerations have a paramount importance. One of the chief of these concerns uneconomic hauling, as previously defined. Any method of delivered pricing based on freight equalization or an average transportation cost makes possible the extension of markets far beyond the relatively rigid limits set by f.o.b. mill pricing and enables a mill to ship at a great distance from what is otherwise its normal market. It thereby facilitates but does not necessarily involve the uneconomical transportation of an industry's products, with resultant higher costs borne by the consumer in higher prices or by members of the industry in net losses. On the other hand f.o.b. mill pricing restricts a mill to surrounding, nearby markets, excludes it from more distant ones, except that as it is willing to lower its f.o.b. mill price even below cost it may extend its market substantially beyond these limits. In an industry the production units of which are large and have heavy fixed overhead charges (the type of industry to which, as shown, freight equalization is best adapted), pressure in a declining market to reduce price down toward the floor established by actual out-of-pocket expenses is severe and effective in inducing many producers to quote lower and lower prices to secure greater volume. Action by one seller almost inevitably means retaliatory action by another whose market has been invaded; in this way the effect is cumulative, throughout the industry. Under such conditions mills in an industry selling on an f.o.b. mill basis will be forced to invade outside markets, ship at long distances, and contribute to general uneconomic hauling. The principal difference between the conditions of these mills and that of producers in an industry which practices delivered pricing with equalization is that the latter, in order to extend their markets and ship long distances, need not reduce their f.o.b. mill prices. On the other hand, in a rising market, there is under any system of pricing a real incentive for a mill to distribute its products in its immediate surrounding territory, where the highest base price can be obtained, or the greatest mill net yield (with the least absorption).

Both of these tendencies operate and are of great importance. It is, nevertheless, true that uneconomic long-distance hauling is possible on a much wider scale with delivered pricing and freight equalization than with f.o.b. mill pricing. The extent to which the potentiality is realized varies of course in individual industries.

Efforts to control uneconimic hauling under systems of freight equalization center upon the use of limitations upon the absorption of freight. The theory behind this obviously is that the benefits to be derived from freight equalization may be secured without the attendant abuses. The soundness and efficacy of such limitations will depend, first of all, upon how well they are set and how well they are adjusted to changes in the market and cost conditions on the basis of which they were set. Their existence and maintenance assumes absolute control and effective enforcement either by government or by a dominating group in the industry. They postulate the ability of the administrators to define economic markets for the producers in an industry, to accurately anticipate and allow for the effect of the market restrictions imposed (in the

form of limitations) upon costs, prices, intermill relations, etc. The administrative and enforcement difficulties are on the whole such as to make the use of limitations upon freight absorption impracticable in most, if not all, industries.

It is important to note in connection with uneconomic hauling that its wastes and excessive costs are not confined to transportation but may also involve a corollary increase in selling costs as a result of the duplication and diffusion of sales activity by mills over extended areas.

The practice of delivered pricing, uniform or with freight equalization, may in certain industries tend to encourage over-expansion of productive capacity by mills which are attracted by the opportunity it offers to extend markets by shipping to distant destinations. With over-capacity and heavy fixed overhead charges the incentive to uneconomic hauling at the cost of high freight absorption is very great, particularly, in the face of declining consumption. The extent to which this tendency is realized in a given industry must be the subject of careful inquiry before dependable conclusions can be reached as to the soundness of its pricing methods.

The interests which are chiefly concerned in the operation of a pricing practice must be clearly understood and kept in mind while working toward a solution of the problem for a particular industry. These interests are, first, consumers generally, whose primary concern is that total sales shall be at lowest possible total delivered price; second, the industry itself, which expects gross sales to recover cost (including an element of profit) on as large a volume of goods as is consistent with maximum total profits; finally, special groups of consuming industries fabricating and further processing the industry's products as raw materials, which groups demand low prices and may object to any pricing practice which in permitting uneconomic hauling increases transportation costs and prices of the products purchased, unless compensating advantages and economies are secured. The effect of a pricing practice in one industry upon costs and prices in a second, consuming industry must be given primary consideration, since where a product passes through a number of stages in the production process, it is the final cost and price of the finished product which is more significant than costs and prices at any particular stage. An inquiry into the soundness of a method in a fabricating or supplying industry must be made from this point of view.

A fundamental question in an evaluation of any pricing practice is: Are high cost operators obtaining business which other operators could supply at lower cost and price under another method?

The soundness of geographic pricing methods in any particular industry may be determined only by an exhaustive inquiry into the net effect of each method upon total costs of production and distribution in the industry. Are the excessive costs of uneconomic long-distance hauling, to the extent to which they are attributable to a given pricing method and not inescapable by reason of the character of the industry, greater or less than economies obtained through the ability of mills freely to extend markets and attain optimum production size and through a widening of the

geographic field of competition to permit the entrance of a larger number of producers at every destination point? Furthermore, even if it appears theoretically sound to adopt a new pricing method in a certain industry, is it practicable to do so in the light of a possible serious dislocation of the structure of the industry (with respect to production and distribution facilities, capital invested, etc.) and of related industries as developed under existing methods?

For the purpose of a final summary evaluation it is advisable to separate two main aspects of the operation of geographic pricing practices. The first is concerned with the question as to how these practices tend to affect the general price level and other economic conditions aside from any differences between localities and geographic regions. The second addresses itself to an analysis of these regional differences or, in other words, of the relative advantages and disadvantages obtaining for localities and areas within the framework of the general price and other economic tendencies referred to as the first topic of investigation.

As to the first point, the most significant distinction appears to be between practices tending to sharpen price competition and thus to force price levels down and practices tending to curb price competition and to facilitate price leadership and agreements as to price fixing and other control measures. In the former group belong all freight allowances (they may be coupled with f.o.b. or delivered pricing), the equalization of freight with more favorably located competitors, as well as unlimited absorptions of freight. Under the latter category fall the limitations on freight absorption and basing point systems with a rigidly controlled number of basing points. Flexible basing point systems with substantially free choice of new basing points as frequently as circumstances necessitate have an intermediate position. F.o.b. and delivered pricing as such are not quite determinate in their effects and can differ in their character under different accompanying conditions. Anti-dumping zones, price filing zones and uniform price zones belong in the second group of practices tending to curb price competition. On the basis of what has been said about these practices in preceding sections of this chapter, the reasons for this classification will readily be understood.

The essence of freight equalization is that all competitors, not willing to acquiesce in a loss of business merely because of freightwise greater distance from the market, charge instead of actual cost of transportation the lowest freight rate incurred by any of them. This has frequently the effect, especially in times of shrinking markets, that the sellers most favorably located and now deprived of this competitive advantage of location resort to price cutting which they can do more easily than other sellers whose net yields are already curtailed by freight absorptions. In short, freight absorption by some induces price cutting by others and this, in turn, induces more price cutting by the first. The downward spiral of falling prices is effectively kept in motion by freight equalization and similar freight allowances. Flexible basing point systems come close to the effects of freight equalization, if changes in the list of basing points (abandonment of old one and adoption of new ones) occur as frequently as is necessary in order to assure the lowest delivered basing point prices for all markets. Under the operation of the basing point formula in conjunction with the right

of any industry member to establish at any time a new basing point this is theoretically possible. Practically, however, there is a counteracting tendency in the fact that the notoriety of basing point changes and changes of basing point prices imposes restraint on firms who otherwise might be inclined to choose a new basing point with a lower basic price. Generally, though not without exceptions, freight equalization exists under competitive conditions with a great number of points of supply, while the basing point forumla is more often found under conditions which bear traits of price leadership.

As freight absorption frequently becomes the lever setting in motion the spiral of downward price movements, so the enforcement of limitations on freight absorption is the first step curbing competitive price cutting and introducing an element of control into the situation. The nature of such enforcement is to put a floor under this kind of lowering of prices by fixing (either in percentage terms or in dollars and cents) the maximum amount of actual freight cost that may be absorbed by the seller. A rigid basing point system tackles the situation again in a different way. It does not involve any limitation on freight absorptions (although this might be added to the system as a new and extraneous feature). On the contrary, high freight absorptions are rather frequent. But different from the freight equalization scheme, these freight absorptions are not the chief characteristic of the system. While they occur in cases when a mill sells in the territory closer to its basing point (or in the case of a basing point mill, closer to another basing point) than to itself, the very opposite, that is, the charging of imaginary freight, takes place in all instances when a non-basing point mill sells to points closer to itself than to its basing point. Whether the one or the other carries greater weight, is a question of fact and cannot be derived from the nature of the basing point system. It is, however, highly significant of the system that its rigidity prevents the setting-up of new basing points for individual transactions when thereby a lower price could be achieved for some locality than is possible under the existing basing point structure. Taken in conjunction with the fact, that the smaller and the more rigidly established the list of acknowledged basing points is, the greater becomes the notoriety of all changes in the basic prices and, accordingly, the better the setting for price leadership, this feature justifies the conclusion that rigid basing point systems are in all practical cases indicative of some kind of controlled formation of prices rather than free competition. It must, however, be stated with all possible emphasis that the mere form of a basing point system with the same delivered prices quoted at any delivery point by differently located sellers is as such not identical with price control. Uniform delivered prices in the same market are a possibility whenever standardized commodities are sold and are the outcome of competition as well as of control. The question as to whether the formation of prices is competitive or controlled, relates exclusively to a stage of the process which precedes any filing or publishing of prices at a basing point. It is true that the existence of basing points facilitates price leadership, if such exists, but nothing in the matter, neither any theoretical aspect nor any observation of practical experience, suggests that the institution of basing points alone can bring about price leadership or any other form of price control. There is a functional interrelationship between basing points and measures tending to maintain high and stable prices, but no necessary

sequence runs from the basing point practice as a cause to price control as effect.

As regards anti-dumping zones, it is clear that they belong in the group of measures devised to support prices. Their essence is the exclusion of additional outside competition (which in the nature of the case is vigorous price competition) and that by itself tends to stabilize the market. This stabilization is intensified in most practical cases by further price control measures which frequently follow the establishment of anti-dumping zones.

As to f.o.b. and delivered pricing without further specification, it has been said above that their effects, whether shaprening or controlling price competition, are not quite determinate. F.o.b. pricing does not add to or detract from the relative competitive position of sellers in the same locality. It limits the geographic radius over which competition can extend in proportion to the weight of freight charges. Consequently strict adherences to f.o.b. pricing by all industry members can contribute to the preservation of a local monopoly which is able to raise its prices to the level of its nearest competitor's prices plus freight from the latter's place of business. In such a case only freight absorption practiced by the distant competitors of the local monopolist will strengthen competition and tend to break the monopoly. Delivered pricing based on a uniform mill price for all buyers plus actual cost of transportation does not differ from f.o.b. pricing. In some cases delivered pricing might facilitate adoption of the practice of freight absorption (for reasons indicated in a preceding section of this chapter). Delivered selling with freight equalization and delivered basing point selling have been discussed. It remains to point out that uniform delivered prices for the whole country or for certain geographic zones have to be classified among the measures tending to maintain price stability. Such uniformity of prices at delivery points greatly distant from each other is necessarily indicative of a controlled situation. In all practical cases price stability is the main objective of the operation of the control mechanism.

The classification of geographic pricing practices into two main groups with respect to their effect on price competition has been for the purpose of reducing one aspect of our special problem to the more general problem of price rigidity and price flexibility. The scope of any satisfactory treatment of this latter problem would be vast. The functional position of the price making process in the whole framework of a competitive economy, the different institutional features conditioning the working of the price mechanism and the peculiarity of price movements under the influence of the different phases of the business cycle would have to be taken into consideration. It is intended here only to indicate these broader connections of our porblems. No attempt to deal with them can be undertaken within the scope of this report.

It has been stated above that a judgment of geographic pricing practices in terms of public policy has to distinguish between the effect of these practices on price levels and competitive conditions in general and on the economic conditions in different specific localities

and areas. Important points of view, intermediate in emphasis between the two aspects of this distinction, are concerned with economy in transportation costs and with the most economic location of production facilities. As a guiding principle for further investigation these points can be formulated into the question: What system of geographic pricing will achieve in a given industry lowest total or average transportation costs from mill to consumer, while permitting the producing units to operate at optimum size relative to demand conditions and cost of production? This question, suggesting a static analysis of the matter, would have to be supplemented by another question emphasizing the dynamic perspective of change, transition, evolution: If the system theoretically proved to be the most economic is not now in use, can it be established without dislocating existing production and distribution facilities in this and other related industries which might nullify the value of any economies obtained through its introduction? From this stage of the analysis a further step would have to be taken leading to an examination of the relative advantages and disadvantages wrought for different localities and regions. The development of principles satisfactory for determining public policy with respect to these matters necessarily presents serious difficulties due to the extremely complex nature of the problem. It should be borne in mind that regarding the development of interregional economic relations at least two basically different lines of policy are possible. First, the highest degree of specialization in the field of its best natural equipment can be encouraged for each region; second, a balanced development of as many different lines of economic activity as possible can be regarded as preferable to specialization. The amount of total transportation cost to be borne under either system is one of the decisive factors in determining a course of action. Furthermore, it would be necessary to examine, in addition to the amount of transportation costs defrayed by each region under each system, the effect of the different methods of geographic pricing on the rate of growth and the stability of production and on the prices paid by consumers, the net yields received by producers and the ratios between cost of production and net price (indicating the prevailing profit margins) in each region as compared with the corresponding state of things in other regions or, on an average, in the country as a whole. The balancing of the interests of consumers and producers and of the interests of different regions where they are in conflict, are tasks the relevance of which for our problem must be emphasized. However, they lie beyond the scope of this report.

CHAPTER II

BASING POINT, FREIGHT EQUALIZATION AND ZONING SYSTEMS IN THE LUMBER AND TIMBER PRODUCTS INDUSTRIES

I. BRIEF STATEMENT OF THE CONDITION OF THE LUMBER INDUSTRIES PRIOR TO THE CODE.

The lumber industries, logging, milling and fabricating, brought to the process of code formulation under the National Industrial Recovery Act in 1933 problems which were at that time critical in the exact sense of the word. These problems were rooted in causes which had been developing since the Great War or before, had largely deprived the industry of its share in the prosperity of the twenties, and were only intensified by the depression which began in 1929. Declining markets and a considerable overexpansion of productive capacity were but two of the causes; heavy local taxes upon large commitments in standing timber, destructive price competition between species, wasteful and extensive cross-hauling of products, and inefficient and disorderly distribution all contributed to net incomes and prices which allowed the industry as a whole only meager profits in the best years of the post-war boom, and in 1932 resulted in a net loss for the industry approximately equivalent to 32% of gross sales.

A. Description of the Industry

The term lumber industry admits of no precise definition, but for the purposes of this study will be taken to include the several wood product industries which were brought under the jurisdiction of the code for the lumber and timber products industries. Thus it comprehends logging and sawmill operations, lath and shingle production, woodwork and mill work manufacturers and fabricators of flooring, veneers, plywood, kiln-dried hardwood dimension, sawed boxes, shook and crates, wooden packages and containers, cross-arms, cross-ties, poles and piling and various other products of minor importance. The characteristics and problems of these industries are in certain respects dissimilar and unrelated; for this reason the opinion has often been advanced that their grouping under one code was unsound and impracticable. However, the prosperity of each is, in general, dependent upon similar basic causes and conditions, and the code forced upon most of them the necessity for meeting a common problem, the problem of determining cost protection prices and of devising geographic pricing methods which would permit the maintenance of such minimum prices. Few of them had previously been able to establish any systematic practice with respect to the inclusion of freight costs in delivered prices, and crosshauling was at a peak; transportation costs were excessive, and there was no orderly division of markets, either between species or between areas producing the same species. For these reasons it has been thought desirable to extend the present inquiry to include those industries, brought under the code by definition, in which price ontrol was attempted, and, particularly, to inquire into methods and practices adopted by each to meet similar and dissimilar needs which arose, however, directly from a common code situation.

Commercial production of lumber takes place in significant quantities in thirty-two states (*) . Logging and sawmill activity, as distinguished from fabricating, falls into two main product classifications, viz., softwood and hardwood, of which the former accounts for the greater percentage of total production. Thus in 1929 total softwood production reached 28,926,000,000 board feet and in 1932, 8,746,000,000 board feet; while the total of hardwood production in 1929 was 7,073,000,000 board feet, and in 1932 only 1,405,000,000 board feet. (**)

Principal producing regions for softwoods are, in order of importance, the West Coast, which produces Douglas fir chiefly on the western slope of the Cascade Mountains in Washington and Oregon (south to within about 100 miles of the California state line); the South (including Texas, Oklahoma, Arkansas, Louisiana, Mississippi, Alabama, Georgia, Florida, South Carolina, North Carolina and Virginia, with a limited production in Missouri, Western Tennessee and Western Kentucky), producing southern pine in volume approximately equal to that of fir and other West Coast softwoods; finally, that section of the intermountain west which embraces the eastern slope of the Cascades and the western slope of the Rockies (in the states of Washington, Oregon, Idaho, Montana, California, Arizona, Colorado, Utah and Nevada), producing Ponderosa pine, sugar pine, white fir, larch and cedar, the total output of these species being considerably less than that for either fir or southern pine. Table I in the Appendix sets forth the production of softwoods in thousands of board feet by principal producing regions for the years 1929 and 1932.

Other sources of softwood supply are the southern cypress region lying in, principally, Louisiana, Florida and the southern part of Georgia, with a limited output in South Carolina, and the redwood district in the northern part of California. Hemlock production is not confined to any specific region; Washington and Wisconsin furnish about sixty-eight percent of the total. (***) Northern white pine, another important softwood, is produced chiefly in Minnesota. The New England states, dominant lumber producing area throughout much of the nineteenth century, continue to produce a relatively small volume of pine, spruce and other softwoods.

Hardwoods of many species are produced in a large number of states, the principal producing region being the southern and Appalachian, lying chiefly in West Virginia and Pennsylvania (the Appalachian area)

(*) Table 3 in the Appendix shows the percentage distribution of lumber production, by regions, from 1849-1934.

(**) Source: National Lumber Manufacturers Association, Statistical Department, compiled from data of the United States Bureau of the Census, 1923 to 1933.

(***) Cf. Bulletin No. 30, Lumber, Bureau of Railway Economics, 1927, p. 12.

and Tennessee, Kentucky, Arkansas, Louisiana, Mississippi, Alabama and Texas (the southern area). Other districts producing hardwoods in much smaller volume are the north central states (Ohio, Indiana, Illinois, Wisconsin, Michigan and Minnesota) and the northeastern states, chiefly those in New England. The southern and Appalachian areas together are responsible for about seventy-two percent of total domestic hardwood production. Table 2 in the Appendix sets forth the production of hardwoods in thousands of board feet by principal producing regions for the years 1929 and 1933.

Lumber is fabricated into woodwork, veneer, plywood, packages, containers, boxes, etc., in nearly every state in which it is commercially produced. Flooring production is concentrated, for maple, beech and birch, in Michigan and Wisconsin (the output of these two states is estimated at eighty-four percent (*) or more of the total for this type), and for oak, in Louisiana, Arkansas, Tennessee, Missouri, Texas, West Virginia and Virginia. The former accounts roughly for 25% to 33 1/3% of all hardwood flooring, the latter for 66 2/3% to 75%. (**)

These producing areas for the most part find extended markets for their products, despite heavy transportation costs per unit of weight and measurement. Thus Douglas fir moves to five principal markets: first and largest, the Pacific Coast (Washington, Oregon and California), which in 1929 took 36.3%, in 1934, 32.5% of total fir shipments; California alone accounting for between 21 and 22% in each of these years. A large proportion of this Pacific Coast volume reaches final consumers in other markets, since nearly all Douglas fir is manufactured in this area, partly because of the heavy transportation costs upon the raw lumber, partly because the large mills are integrated, manufacturing millwork and other fabricated products.

Second largest fir market is the Mid-Atlantic area (embracing the states of New York, New Jersey, Pennsylvania, Maryland and Delaware) which is reached by intercoastal water movement through the Panama Canal, to Norfolk and northern Atlantic ports, with shipment by rail as far inland as Pittsburgh and Cincinnati. This area consumed 17.2% in 1929, 20.6% in 1934, of total fir shipments.

Third in importance as a market for Douglas fir is the Lake states area, including Michigan, Minnesota, Wisconsin, North Dakota. In 1929 this region absorbed 16.2% of total fir shipments, in 1934, 13.6%. The mid-western states of Illinois, Indiana, Iowa, Kentucky, Missouri, Ohio, Tennessee and West Virginia, constituting an all-rail market and competitive battleground for fir and southern pine (the two species meeting on an approximate delivered price parity at Chicago), consume an approximately equal amount, the percentage being 14.3 in 1929 and 13.6 in 1934.

(*) Source: Maple Flooring Manufacturers' Association, Chicago, Illinois.

(**) Source: Estimate of the National Oak Flooring Manufacturers Association, Memphis, Tenn.

An export market, largely in Asia and Australia, takes up to 15% of total shipments of fir, but has been noticeably declining since 1932 as a result of foreign tariff barriers and Russian competition. (*)

Southern pine mills ship north and west to four principal markets, first, the Lake states, which in 1929 consumed 22.1% of total shipments of this species, and, in 1934, 27.2%; second, the southwest (Arkansas, Oklahoma, Texas, Louisana) which took 18.6% in 1929 and 25.4% in 1934; third, the southeast (Alabama, Mississippi, Florida, Georgia, the Carolinas and Virginia), consumption by which amounted to 28.6% in 1929 and 21.9% in 1934, and, finally, the Mid-Atlantic States, absorbing 22.0% of total pine shipments in 1929, 15.4% in 1934. The limits of the markets for southern pine had been rapidly contracting since the war as cargo and rail-shipped fir encroached more and more upon its established sales territory in, respectively, the east (Eastern Trunk Line Territory) and the middle west (Western Trunk Line and Central Freight Association Territories). In 1934, this trend appears to have been at least temporarily reversed, with pine increasing its proportion of shipments to states in these markets with the assistance of a protracted longshoremen's strike on the West Coast.

As western pine is limited to rail transportation at high rates save for a small proportion of total shipments, its lower grades, fabricated into boxes and other containers, tend to be consumed within and adjacent to the producing area. The principal markets for these grades and products are, accordingly, the Pacific Coast and intermountain areas. The upper grades, which are of exceptionally high quality, are used primarily for millwork and similar fabricated products, and these, consumed in large volume by fabricating industries on the Pacific Coast, also are shipped to principal markets in the Lake states and Mid-Atlantic areas. The Pacific Coast, enjoying low freight rates, is by far the largest consumer of this species of pine, accounting for 40% of total shipments in 1929 and 36.8% in 1934. The other markets are closely grouped, the Lake states taking 16.1% in 1929 and 19.0% in 1934, the intermountain areas absorbing 14.6% in 1929 and 16.3% in 1934, and the Mid-Atlantic region consuming 13.7% in 1929 and 12.0% in 1934.

Hardwoods also tend to be fabricated near sources of supply, but reach national markets both as lumber and as manufactured wood products.

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* Source: "Report on the Economic Problems of the Lumber and Timber Products Industries", prepared by the Basic Materials Unit of the Industry Studies Section, Division of Review, National Recovery Administration, March 1936, Section IV, Chapter XIII, "Interstate Movement"; Work Materials No. Figures based on data of the Forest Service, U. S. Department of Agriculture. The grouping of states used above is that adopted in the report of the Basic Materials Unit.

The total number of establishments (including planing mills, and box and cooperage manufacturers) operating in the lumber industries has (in the face of declining consumption) always been large, increasing from 14,961 in 1921 to 19,142 in 1929 and dropping to 7,095 in 1933, for mills producing lumber of a minimum value of $5,000 annually. On the same basis the number of logging and sawmill operators, etc., alone, ranged from 12,915 in 1929 to 3,783 in 1933. (*) The total number of operations of all sizes and capacities coming within the definition of the code and including fabricators and processors of lumber was put at 35,775 in 1934, by the National Lumber Manufacturers Association.

In certain of the divisions (notably Southern Pine and Southern and Appalachian Hardwood), as recognized under the code, the number of establishments is relatively large, in consequence of the small amount of capital required to engage in production; in others characterized (for reasons which are chiefly physical) by large-scale production and the use of costly mechanical equipment the number is, as might be expected, small. Natural concentration of standing timber of a particular species in very restricted areas and control of large holdings of strategically located stumpage by a few interests also, of course, tend to keep down the number of producers. For one or more of these reasons the number of mills operating in the southern cypress, northern pine, flooring, mahogany, West Coast and certain other branches of the industry has not, relatively, been large.

B. Chief Problems of the Industry

For some time prior to the code the lumber industry had been faced with a steadily declining demand for its products. Substitutes were encroaching upon established uses for lumber, more than offsetting certain new uses which had been developed. In the construction industry, cement, brick, tile and steel tended to displace lumber in many important uses. Since construction absorbs 65 to 75% of the total lumber output, this shift in demand vitally affected the industry, particularly with respect to consumption of softwoods. Substitutes for fabricated wood products also were numerous and successful, as, for example, fibre board, paper boxes and metal containers, the in-roads of which were seriously felt in the wooden package industries. In the furniture industry the use of metal as a material was growing. All substitutes took advantage of relatively high lumber prices in the middle twenties to extend their uses. As a consequence, the tremendous activity in the construction industry in the middle and late twenties tended only to offset temporarily the effect of a long-term trend of declining lumber consumption. This vitally important market for lumber had begun to weaken in the later years of the boom with a decline in the volume of residential building, and fell off precipitately with the sharp cyclical downturn of construction activity after 1929. So sharp a cyclical decrease in consumption of its products by an industry taking two-thirds of its total volume was

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(*) Cf. Census of Manufactures, Bureau of the Census, 1929, Principal Lumber Industries.

in itself sufficient to depress the lumber industry, even in the absence of a downward trend in general consumption of its products. (*)

Imported lumber, particularly spruce from eastern Canada and high grade shingles from western Canada, was invading American markets, the spruce particularly in New England and the shingles nationally. This foreign competition had been checked to ascertain extent by tariff restrictions at the time the code was adopted. In the decade from 1923 to 1933 total imports of lumber never exceeded two billion board feet in any year.

Reduced demand for its products and overexpansion of production facilities left the industry with considerable over-capacity. Total capacity for all mills in all branches of the industry in 1929 was variously estimated at 66 billion board feet (**) and 82 billion board feet (***) . Of this, even in the peak year of 1925, only 41 billion board feet were in production. In 1932 this total dropped to 10 billion board feet, and the industry was said to have a capacity roughly 6½ times production (****) . Large holdings of standing timber acquired for speculative purposes by operators particularly on the West Coast were subject to local taxes which had increased rapidly especially from 1920 to 1930. With declining demand for lumber, stumpage values also decreased and speculative profits were no longer able to carry the burden imposed by heavy taxation, at rates which are based on estimated property value rather than annual yield or income from conversion of the asset. As a result there was constant pressure to liquidate holdings, and lacking a buyer for the stumpage, to convert the timber and throw it upon the market at almost any price, many new mills being established for this purpose. Thus, the pressure of heavy taxes upon excessive commitments in standing timber acted as another depressing influence upon lumber prices.

Heavy fixed overhead costs for large mills with expensive mechanical equipment (particularly in the West Coast region) also exerted pressure upon certain producers to maintain volume in the face of declining demand by cutting prices down to (or below) out-of-pocket expenses and to extend markets by heavy absorption of freight and uneconomic cross-hauling.

(*) Moreover, farm and railroad building, two sections of the construction industry which had been principal outlets for lumber products, had been relatively inactive even during the boom period; few new farms were being developed, and the life of ties had been extended by chemical preservation. See Table 5 in the Appendix for per capita consumption of lumber and timber products in board feet for the years 1809-1934.

(**) Source: Lumber Code Authority

(***) United States Timber Conservation Board.

(****) Cf. Table 4, "Comparison of Yearly Lumber Production, 1929-1933, and Estimated Capacity of the Industry in 1929 in MM Board Feet".

Inter-specie competition for lumber markets as consumption diminished became more and more keen, particularly between Douglas fir and southern pine. The former had steadily increased in volume of production after the war, when intensive railroad building activity with the construction of hundreds of miles of main and branch lines in the far west opened up vast new areas for production. The Panama Canal and low intercoastal shipping rates enabled western producers to find a principal market for this greatly increased output in the western United States, where fir soon came to set the price on southern pine. Shipped by rail to the middle west it also was forcing southern pine to withdraw from much of that territory. In nearly all divisions of the lumber industry inter-specie competition set delivered prices at contested markets and destinations which shippers scarcely hesitated to meet regardless of higher production and distribution costs and freight charges; price bore, as a result, no very close relation to any of these elements of cost. (Actual production cost is, moreover, often not precisely known because stumpage values are flexible.)

In addition, distribution of the industry's products had long been disorganized, with the functions of the several classes of distributors, wholesalers, retailers, brokers and commission men, never clearly defined in practice. First, the number of retail lumber yards (now 23,000) had not been adequately adjusted to decreased per capita consumption, and an excess number of such outlets made for high costs of distribution. High prices to consumers existed in localities where there were retail monopolies or concerted action by distributors; ruinously low, less than cost prices existed where competition was free. Second, these retailers were selling in large quantities, often carload lots or greater, at a discount from retail price, to master carpenters and contractors; in so doing they directly competed with the wholesalers, who found it profitable to sell directly to contractors upon carload orders. (*) Third, there had been severe competition between large mills, selling direct to the retailer, and wholesalers, who, as a result, increasingly purchased from smaller mills (often contracting for the entire output of such mills) at very low prices which enabled them on resale from time to time to disrupt the market. Fourth, the retailers themselves in many cases took the initiative in establishing purchasing relations directly with the mills, thus avoiding the wholesaler and contributing to the severe competition between the latter and the mill. All these conditions made for inefficiency, instability and a lack of uniformity in the distributive process. Roughly, 40% of all lumber is sold through wholesalers, another 40% directly to and through retailers, and 20% direct to large industrial users, including the railroads.

(*) On such business the essential retail functions and services had been eliminated; no handling at the retailer's yard was required and often shipment was direct from mill to contractor. Nevertheless, retailers and wholesalers were competing vigorously for trade which formerly, while such purchases were in small volume, had been almost exclusively within the sphere of retail distribution.

With the exception of a few divisions acting with varying degrees of success at different times (outstanding among which probably is maple, beech and birch flooring) the industry has never shown any real capacity to accomodate production to demand. Consequently, stocks have usually been excessive when consumption is reduced. Thus by January 1, 1933, when construction volume had dropped 80% from pre-depression levels, stocks were down only 25% (*) . The necessity for liquidating a large part of these manufactured stocks became a factor further depressing the market. The general inability to adjust output to consumption is, of course, attributable primarily to over-expanded capacity and the pressure to convert standing timber, but there was also no successful, lasting effort on the part of major divisions of the industry, through trade associations, to achieve a balance through voluntary action on the part of each mill on the basis of data as to stocks, shipments and prices. An apparent fear of possible citation under the anti-trust laws seems to have inhibited many branches of the industry from making the attempt.

In conclusion, it is desirable to indicate the importance which the problem of crosshauling and uneconomical transportation had assumed for the industry. The National Retail Lumbermen's Association has estimated that transportation cost accounts for 40% of the retail price of lumber. A lower, perhaps more accurate estimate as contained in a report by the Forest Service of the Department of Agriculture (**) puts the railroad freight cost of lumber at $233 for every $1,000 value, which compares with $263 for cement, $198 for common brick, $79 for iron and steel and $58 for wallboard, materials competing with lumber for use in the construction industry. "In the decade 1914-1924", the same report states, "the average length of haul from mill to place of use increased from 360 miles to 725, as the nearer sources of supply approached exhaustion". Of the industry's total annual freight bill of half a billion dollars, the National Lumber Manufacturers' Association estimates that one-tenth is for crosshaulingthat is unnecessary.

The depressed condition of the lumber industries is well indicated in Table 6 in the Appendix showing net profits and losses during the period from 1919 to 1933. From this it may be seen that many producers experienced losses even during the late twenties, when construction activity was at a peak and lumber consumption at a fairly high level.

A demoralized price structure, great over-expansion of capacity, declining markets, wasteful sacrifice of timber resources in conversion, crosshauling and widespread mutual invasion of markets, inefficient distribution, heavy taxes and other carrying charges on excessive commitments in stumpage, all of these problems confronted the industry, combined to make its position critical, when in May, 1933, its leaders took up the business of formulating a code for presentation to the National Recovery Administration.

(*)Based on data prepared by the Lumber Code Authority, quoted from the "Preliminary Report on the Lumber and Timber Products Industry, Research and Planning Division, National Recovery Administration, March, 1935, p. 24."

(**)A National Plan for American Forestry, March 13, 1933, pp. 1358-1359. Senate Document No. 12, 73rd Congress, 1st Session.

II. COST PROTECTION PRICES AND THEIR ADMINISTRATION UNDER THE CODE.

A. Chief Provisions of the Code for the Lumb r and Timber Products Industries.

The Code of Fair Competition for the Lumber and Timber Products Industry, as approved by the President on August 19, 1933, approached the solution of the industry's most critical problems in the following way. In the first place, the industry undertook, as its contribution to general economic recovery, to raise wage rates to pre-depression levels or higher and to reduce hours of employment by 20 to 33 1/3% to a standard 40 hour week, for the purpose of restoring purchasing power and spreading employment. Second, in order to enable its members to carry so great a burden in increased costs and at the same time to put a stop to the marketing of lumber products at prices which did not permit even the more efficient operators to recover costs, minimum "cost protection" prices on the various items and classifications of products were to be set, on the basis of an accurate determination of weighted average costs for producers in each division. Beneath these prices, no producer in the particular division might sell. Supplementing and strengthening this provision, the code authorized the allocation of production among divisions and among producers within divisions, by quotas based on estimates of futute consumption and certain approved methods of allotment, it being recognized that no minimum price structure could be upheld, if the industry continued to produce greatly in excess of demand. Finally, in consideration of an universally acknowledged need for conservation of timber resources, the industry incorporated in its code a provision in which it stated this need and in effect expressed its willingness to do everything practicable to promote the interests of the conservation movement. Later through Schedule C the code provided for divisional adoption of mandatory forest practices and granted a quasi-subsidy to producers who would go on a sustained yield basis, by permitting them a 10% increase in production allotments.

B. Article IX: Cost Protection Prices.

Under Article IX, the code provided (*) for the establishment of cost protection prices, also provided a method for their determination, involving the inclusion of certain costs and the exclusion (under certain conditions) of others. The establishment of such prices and their revision "from time to time" was authorized "whenever and so long as the Authority determines that it will contribute to accomplishment of the declared purposes of the code, and whenever it is satisfied that it is able to determine cost of production as defined in this section (a)". The prices authorized were "minimum prices f.o.b. mill", and they were to be established "with due regard to the maintenance of free competition among species, Divisions and Subdivisions, and with the products of other industries and other countries, and to the encouragement of the use of said products". Except for export sale, prices were to conform to the current weighted average cost of production of persons in operation in the Division or Subdivision (or, where necessary, group within the Division), as determined by "uniform accounting practices". A classification of costs which were to be included in the current weighted average cost of production was given.

(*) See Article IX, of the Code for Lumber and Timber Products Industry, Codes of Fair Competition, Volume 1, page 98.

The cost of production for each species, determined as provided, was to be allocated by the Authority to the several items or classifications of products for which minimum prices were established, in proportion to their relative market prices over a representative period. Such allocation was to be changed by the Authority from time to time, as might be found necessary to avoid shortages or excess accumulations within any Division or Subdivision of particular items or classifications of lumber and timber products; but the weighted average minimum price of all items and classifications for each species "shall not be more than cost of production as determined in section (a) nor less than said cost after deducting the capital charges specified"(*).

Auxiliary provisions incorporated in Article IX authorized "equitable" price differentials for products below accepted standard of quality (to be defined by the Authority), forbade evasion of the minimum prices by the sale of non-standard grades and sizes, and made possible restrictions upon the importation and sale of foreign lumber at prices which might threaten the code-created domestic price structure.

It is important to note that under the code as adopted the Authority was empowered to establish only "minimum prices f.o.b. mill". In no place either in Article IX or elsewhere in the code is the authority to set delivered prices or to make rules for the addition of freight charges to f. o. b. mill prices specifically granted. The following provision is, however, inserted as paragraph (i) of Article IX: "The Authority shall issue interpretations and shall promulgate rules and regulations necessary for the enforcement of this Article, to prevent evasion and secure equal application thereof". Examination of transcripts (**) of the public hearings which preceded adoption of the code failed to disclose evidence that this provision was intended to serve any specific purpose, or other than as a broad, supplementary clause which might be used in the event of some unforseen, practical administrative or enforcement necessity.

C. The Institution of Cost Protection Prices, and the First Series of Price Bulletins.

Approval of the code by the President on August 19, 1933 opened the way to the fixing of minimum prices by the Lumber Code Authority, upon its own discretion and without provision for review by the National Recovery Administration or any other agency of the government. That there were still serious difficulties confronting the Authority, difficulties which the mere legalization of price-fixing and a virtual carte-blanche on administration from the government could not remove, was soon, if not immediately, apparent. First, there was the problem of determining average costs of production in the various divisions in the face of the primary

(*) Depreciation on plant and equipment and charges on standing timber carried in the capital account, "cut for operations", are the "capital charges specified". Cf. Code for the Lumber and Timber Products Industry, Codes of Fair Competition, Volume 1, page 98, Article IX, section (c).

(**) Cf. Transcripts of Code Hearings, Lumber and Timber Products Industry, National Recovery Administration, July, 1933.

fact that relatively few operators in any division kept accounting records complete enough or sufficiently standardized to provide data adequate for the determination of costs. Second, there was the difficulty of allocating weighted average costs, once determined, to the variety of items and product classifications manufactured by each division. This was an intricate task which had to be accomplished without the assistance of data as to the breakdown of item costs, with extreme care to avoid creating maladjustments in price relationships as between items, and, finally, in such a way as to secure a net average realization upon all items neither above nor below weighted average costs(*). Third, there was an artificial price equality created at the point of shipment by the establishment of minimum prices f.o.b. mill based upon the theoretical concept of weighted average cost, and this artificial parity had to be carried over to the market in the form of equal delivered prices (despite varying distances of shipment) arrived at through the application of rules and regulations governing the addition of freight charges to the minimum prices(**). Fourth, the prices to be established for the products of any division must somehow be coordinated with the prices

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(*) The code allowed the range between floor and ceiling costs as leeway in the allocation.

(**) The establishment of minimum prices f.o.b. mill without regulations for systematic delivered price equalization was theoretically practicable given certain conditions. Had the demand for lumber products been sufficiently strong, and the minimum prices relatively low, the market might have supported delivered prices which would include (in addition to the minima) freight from the most distant mills supplying each trade or consuming area. In fact, however, demand did not increase sufficiently; the result was that the minima tended to operate also as maxima in the market. Under these circumstances the practice of f.o.b. mill pricing without control over delivered prices would have meant unlimited absorption of freight by mills wherever located with respect to any destination; since this would have nullified the meaning and effect of "cost protection" prices (the purpose of which was to secure recovery of the specified costs of operation for each division as a whole), it was out of the question. If, however, the Authority had required simply the addition of actual freight from mill to destination, the effect would have been in nearly all cases to exclude the long-haul shippers from any market until shippers relatively near (freightwise) the market had exhausted their stocks; lumber products for the most part are so highly standardized and freight is so large a proportion of final cost delivered to the consumer that the addition of actual freight charges and the resulting differentials in delivered prices must have had this effect. And the effect of excluding distant mills from the market would have been highly important because the short-haul shippers were known to be able to supply the lumber needs of most markets, a situation which it was impracticable to correct by the exact adjustment of production allotments to consumption because this would have

(Continued on next page)

of products of competing divisions, and kept in line with the current prices of substitute materials.

No one of these tasks was under any circumstances easy of accomplishment, but the industry through the Lumber Code Authority was forced to undertake each with entirely inadequate preparation. Cost protection prices were to be established as soon as possible after approval of the code; since the new wage rates and maximum hours went into effect immediately, it was considered vital to have the ptotection of minimum prices with the least possible lapse of time after approval of the code (*). As events proved, the process of establishing minimum prices in the several divisions required two to three months, or the period from mid-August to November 7, 1933. On the latter date and thereafter in the same month prices became effective in a number of divisions and subdivisions.

The scope of this inquiry does not include a study of cost determination of item price allocation, except as they bear upon the subject of geographic price relations. The remainder of this section of Chapter II will therefore be given over primarily to that phase of the administration of cost protection prices which concerns the divisional rules and regulations for delivered price equalization. Other aspects of minimum price administration must, necessarily, be discussed only incidentally.

The heterogeneous character of the industries brought under the jurisdiction of the code made the work of cost determination and item price allocation for each division necessarily beyond the capacity of the central code administrative body, the Lumber Code Authority. First step in the establishment of minimum prices was, therefore, the delegating of these functions to the divisional code agencies, as soon as the trade associations which were to function as code administrative agencies had

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resulted (in view of the continuing lag in lumber consumption) in a reduction in employment calculated, it was thought, to threaten the entire recovery program in the lumber industry. And, in fact, for this reason, so accurate an adjustment of production quotas to demand was not attempted by the various divisions and subdivisions. Again, complete delivered price equalization was theoretically not necessary; it conceivably was possible to restrict the sources of supply for given markets to mills within a certain distance from those markets by imposing limitations upon the absorption of freight; but (as will be seen later) this also proceed impracticable because it would have meant the alienation of important groups of shippers who had always served distant markets by absorbing freight heavily; the support of these groups was necessary because enforcement of the code provisions was weak and compliance was largely voluntary. Thus the conditions under which minimum prices f.o.b. mill might have been established without control over transportation charges and delivered prices were not present in the lumber industries under the code; mandatory delivered price equalization was a practical necessity.

(*) This was desirable also from the point of view of securing the fullest possible benefit from the mass enthusiasm which supported the codes in the early months of the National Recovery Administration.

gotten under way. Each division, following upon the completion of the work of determination, was to submit its cost data and item price list to the Lumber Code Authority, meeting in October, 1933, for approval, upon receipt of which the prices would take effect.

This shifting of the function of cost determination and allocation of costs to minimum prices to the divisional code agencies carried with it the responsibility for devising adequate delivered price equalization systems, systems designed to meet the peculiar needs created by the rail rate structure in effect for each division's shippers, the location of timber resources and production facilities in each division, and other circumstances affecting the problem which we shall descuss later in this Chapter. Even in those divisions which had or recognized no problem of freight equalization, there was still, concomitant to the setting of minimum prices at the mill, the necessity for establishing some control over freight charges from mill to destination; without, if nothing else, the requirement that the actual charges be paid by the buyer, unlimited absorption of freight was obviously possible for all shippers, and the net incomes of members of all divisions might well be much below the level established by cost protection prices. In an industry for which freight charges are so large a proportion of delivered price and so heavy per unit of weight and measurement, it was not sufficient to protect costs to the point of shipment; strict control over the handling of transportation costs was essential.

The procedure, by which the divisional rules and regulations governing the application of freight to f.o.b. mill minimum prices were developed, coordinated (as between divisions) and finally approved will never be fully or definitely known. Most of the data on the basis of which intricate freight rate adjustments or delivered price zones were devised has unfortunately been destroyed by the divisional agencies, as have many records of the hearings, meetings and conferences held, where, indeed, any such records were kept.

However, on the basis of a complete examination of files of the National Recovery Administration and of the minutes of the Lumber Code Authority and its National Control and Resident Committees, supplemented by interviews with traffic managers and administrative officials of the divisional agencies, it is possible to give a reasonably dependable, general account of the procedure followed in most of the divisions.

In each principal (*) division for which cost protection prices were to be established the code administrative organization included a

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(*) In a few minor subdivisions, particularly the Southern Rotary Cut Lumber Subdivision of the Southern Pine Division and the North Central Subdivision of the Hardwood Division, the absence of an established, efficient trade association to take over the administration of the code upon its inception made it necessary for other divisions to assume the cost determination and certain other administrative functions; in the case of the Southern Rotary Cut Lumber Subdivision, the Southern Pine Division undertook the responsibility, and in the North Central Subdivision, its sister hardwood subdivision, the Appalachian and Southern.

costs and prices committee, as one of the major permanent committees, and a cost and prices department to undertake the research and accounting work upon which the committee might base its action (*).

The committee typically was composed of members of the industry whose mills were variously located and who, theoretically, might be expected to represent all interests which might affected by the weighted average costs and rules and regulations adopted. The department was under the direction of an officer of the old trade association (now the code administrative agency) and usually included, perhaps in a subdepartment, the association's traffic manager (in an important capacity) and the staff of tariff experts and clerks. There might also be (in addition to the subdepartment), as in the case of the Southern Pine Division, a sub-committee of the costs and prices committee, a "committee on freight equalization", composed of sales managers and traffic experts of representtative companies (**)

In September and October, 1933, these divisional committees, faced with the problem of calculating prices and devising delivered price regulations for presentation at the October meeting of the Authority, found the time too short and the data too imcomplete to permit of an accurate cost determination, so submitted prices (which were later approved) based largely on estimates of what could be secured for their products and the general expectation that 1929 prices might be approached (***). Similarly, the rules and regulations for freight equalization were makeshift and incomplete, and later had to be radically revised in a number of cases.

Within each division the work of devising delivered pricing regulations apparently was turned over by the committee having jurisdiction to the appropriate costs and prices or freight equalization department, with more or less complete instructions as to what kind of system was thought desirable. The traffic manager and staff of tariff experts then developed a set of regulations which, with strict reference to the rail and water rate structure in effect for shippers of their species and to the prevailing division of markets between mills located in the various producing areas, might secure delivered price equalization without any maladjustment of the status quo: that is, without exacting a disproportionate sacrifice from any group of manufacturers.

The plan or set of regulations so devised by the divisional costs and prices, traffic, or freight equalization department, was submitted

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(*) The names adopted by the several divisions to describe these committees and departments varied, those used in the present analysis being among the more common.

(**) In the Southern Pine Division the committee had two members from every important producing state within the division, there being no representatives from such states of limited output as Missouri, Tennessee, West Virginia, Maryland and Delaware.

(***) Cf. "Cost Protection Prices and Cost Substantiation Data of the Divisions and Subdivisions of the Lumber Code Authority", prepared by D. N. Burnham, C.P.A., Research and Planning Division, National Recovery Administration, May 6, 1935.

to the committee and approved with, ordinarily, only such minor changes as might be obtained by influential groups of shippers who were able to plead discrimination in their established markets. Other changes might might be introduced if it was agreed that a certain arbitrary or regulation might handicap the division in competition with another species.

Once approved by the committee highest in authority within the division, the cost determination data available, the allocation of costs to item prices, and the regulations for delivered price equalization were submitted to the National Lumber Code Authority for approval. On October 26, 1933, the Authority, meeting in Washington, proceeded to a discussion of the first current weighted average costs filed and the accompanying prices proposed by a number of divisions. One of these was the Southern Pine Division; when its cost data was presented to the Authority "representatives of the Division indicated that the proposed allocation to items and classifications of lumber would produce an average realization of $25.75 (per thousand board feet). The Authority was also advised that the Division had in consultation with the West Coast Division established item prices which would maintain competition" (*).

After examining the data filed by a number of other divisions the Authority was able to reach the following conclusion, as expressed a resolution adopted on October 27, 1933:

> "Resolved, that the Lumber Code Authority is satisfied that it is able to determine the cost of production of the products of the following named Divisions and Subdivisions in accordance with the provisions of Article IX of the code and finds that the establishment of minimum prices thereon will contribute to the accomplishment of the purposes of the code." (**)

Adoption of this resolution was accompanied by the approval (on the same day) of minimum prices in two Divisions, Oak Flooring and Maple, Beech and Birch Flooring, and in two Subdivisions, the Commercial Veneer and the Plywood.

Thereafter, and until adjournment on November 2, 1933, the Authority was busy approving, for a number of divisions, first, the cost data and prices submitted, second, the rules and regulations for delivered price equalization proposed. Usually approval of prices and regulations was granted separately and a standard resolution was used for each type of approval. The form used, in voting approval of the rules and regulations, made it quite clear that paragraph (i) of Article IX was considered not only to authorize mandatory delivered prices, but also to make them

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(*) Cf. Minutes, Lumber Code Authority, October 26, 1933, paragraphs 7, 8. Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(**) Cf. Minutes, Lumber Code Authority, October 27, 1933, paragraph 10. Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

necessary "to secure equal application of the said Article IX". (*)

The delivered pricing rules and regulations had been approved for certain divisions in advance of approval of the minimum prices; thus the methods proposed for the West Coast, Southern Pine, Western Pine, Appalachian and Southern Hardwood and flooring divisions were approved on October 25, 1933 (**).

Two considerations seem to have been held of primary importance by the Authority at this time in granting approval to the prices and regulations proposed by the Divisions: the first, that the item price allocation of weighted average cost produce an average realization somewhere between the floor and the ceiling cost (***) and neither above the latter nor below the former; second, that it be established that the divisional authorities had conferred with and reached an agreement with representatives of competing species and divisions so that the prices of all such divisions might be coordinated and competition maintained. Each of these conditions had to be complied as a prerequisite to Authority approval.

Unfortunately, neither the minutes of the Authority nor the records of its National Control and Resident Committees ordinarily report the discussions which must have preceded approval of costs, prices and regulations for each division. Consequently, we are without knowledge of the reasons advanced for and against specific proposals by groups within the division, information which would be of value in learning what each plan was expected and designed by its proponents to accomplish, and what maladjustments adversaries feared it might produce.

The coordination of the original minimum prices in the three principal divisions was achieved through conferences between Southern Pine, West Coast and Western Pine Division representatives, held at the

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(*) The standard form of the resolution follows:

> "Resolved Further, that pursuant to the requirements of Article IX (a) and to secure equal application of the said Article IX as required by sub-section (i) thereof, the following rules and regulations in respect to the application by all persons of the established prices in the sale of lumber of the Division are hereby promulgated."

Cf. Minutes of the Lumber Code Authority, October 27, 1933, Paragraph 9. Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(**) Cf. Minutes of the Lumber Code Authority, October 25, 26, 1933, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(***) The floor cost was the weighted average cost exclusive of capital charges specified; the ceiling cost included these charges.

direction of the Authority's National Control Committee (*), which met in October prior to the meeting of the Lumber Code Authority from October 16, to November 2, 1933.

The Lumber Code Authority was in session from October 16 to November 2, inclusive. The first rules and regulations had been approved on October 26, the first minimum prices on October 27, the latter effective on November 7. After October 26, the Lumber Code Authority was active in approving the prices and regulations submitted by the various divisions; following its adjournment on November 2, the work of review and approval was taken over first by the National Control Committee and following the adjournment of this powerful committee, by the Resident Committee.

These prices and rules and regulations were promulgated through a series of bulletins (**) (for the most part, one for each division and subdivision in which prices became effective) issued by the Lumber Code Authority. By December 2, 1933, thirty bulletins had been published and by December 12 prices were effective in twenty-five divisions and subdivisions, including all of the logging and milling branches and a number of wood fabricating industries.

With only a few exceptions these bulletins contained, in addition to schedules of minimum prices f.o.b. mill on a variety of items and product classifications, rules and regulations for the application of the minima as delivered prices including, in addition to the established prices, a fixed amount of transportation cost representing on a majority of transactions other than actual freight charges incurred. In only six divisions and subdivisions, for which cost protection price s became effective during this period, were transportation costs, as included in delivered prices or as borne by the buyer strictly equivalent to the freight charged by the carrier. In each of these cases sale was required to be at delivered prices. These six were: first and most important, the West Coast Logging and Lumber Division (only upon shipments outside the division); second, the Philippine Mahogany Subdivision of the Hardwood Division, the products of which were priced f.o.b. cars at Pacific ports plus freight to e destination; third, the Red Cedar Shingle Division; fourth, the Southern Rotary Cut Lumber Subdivision; fifth, the Commercial Veneer Subdivision, the members of which manufacture veneer from Southern Rotary Cut pine lumber; sixth, the Plywood Subdivision. The last three subdivisions all abandoned the practice of adding actual freight to f.o.b. mill prices in order to arrive at delivered prices after several months, substituting zone-delivered prices, uniform at all destinations within each consuming zone. Only the first three retained delivered prices based on actual

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(*) Cf. Minutes of the National Control Committee, October 14, 1933, paragraph 5. Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(**) An "Index of Price Bulletins" is contained in Exhibit A at the end of this chapter. See also Exhibit C, "Typical general Regulations Included in The Price Bulletins of the Divisions and Subdivisions," end of this chapter.

freight charges throughout the period of cost protection prices (*).

With these exceptions, limited in number and including only one major division, the establishment of cost protection prices in the various divisions and subdivisions of the lumber industry was accomplanied by the introduction of mandatory pricing practices, requiring delivered prices formed by the addition of other than actual freight to established minimum prices by many or all shippers on all or a majority of transactions.

The methods by which the amount of freight to be added was calculated varied. Fixed basing points, single and multiple, were employed by a number of divisions, a few of which had had experience with basing points prior to the code. Zone-delivered prices, uniform at all destinations within defined areas, were used by other divisions, and were particularly in favor with the fabricating branches of the industry. Equalization of freight with more favorably located mills was authorized by a few. A number of modifications of these standard methods of securing competitive delivered prices at all destinations for shippers wherever located were devised; some of these modifications were highly complex, elaborate. Nearly all types of geographic pricing practice for which there were precedents in the experience of other industries were experimented with; several highly complex modifications thought to be adopted to the weighted average cost protection minimum price principle and to the peculiar problems of particular divisions were devised.

In seven divisions and subdivisions no f.o.b. mill or base prices were established; minimum delivered prices only were issued in the bulletins and became effective for all mills. Thus, the Mahogany Subdivision published only delivered prices on American and African mahogany, required their quotation unchanged at all destinations within the continental United States. One other subdivision of the Hardwood Division, the Walnut Subdivision, established delivered prices by consuming zones and published no f.o.b. mill prices. Other divisions, publishing only delivered prices by zones, were the Plywood Package, Sawed Box, Shook Crate and Tray, Standard Container, and American Veneer Package Subdivisions of the Wooden Package Division and the Stock Manufacturers Subdivision of the Woodwork Division.

The first period in the administration of cost protection prices under the lumber code came to an end in December, 1933. By December 12, prices and pricing regulations were (as has been stated) effective in 25 divisions and subdivisions. The Lumber Code Authority had, however, with the publication of the first price bulletins, issued instructions to the divisions respecting the collection of cost data for specified periods (the months of July, August, September and October, 1933). This data was to be available for December 10, for examination by the

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(*) One other minor division, for which prices became effective at a later date, the Broom and Mop Handle Division, appears to have begun with strict f.o.b. mill pricing (the buyer taking title to the shipment f.o.b. the mill, paying all freight charges to destination), and continued with it during the whole of the period of cost protection prices.

Costs and Prices Department of the Authority. The data secured would, presumably, remedy the basic deficiency in minimum prices as established, and be used to make any revisions necessary to bring the minima into agreement with costs as determined. Publication of amended prices and regulations was to begin as soon as possible after review of the data.

Before passing to a consideration of the administration of prices in the second period it may be well to consider in what respects the first period was notable.

In this period there had been no accurate determination of weighted average costs of production as defined explicitly in Article IX. Nevertheless, in 25 divisions minimum prices had been established. Obviously, without accurate knowledge of costs, it was impossible to allocate costs to item prices, as directed by Article IX, "in proportion to relative market prices over a representative period" (*). As a result prices were based largely upon estimates of what the market would bear. The coordination of prices as between divisions had been informal, the primary concern of the Authority being to correlate the principal softwood divisions, the West Coast, Western Pine and Southern Pine. Basic coordination of minimum prices on these woods was achieved by representatives of the three divisions meeting in Washington in October, and in Portland, Oregon, in December, and the coordinated prices for each division were presented to the Authority for approval. Beyond the fixing of minimum prices at the mill, the Lumber Code Authority had interpreted subsection (i) of Article IX as authorizing (and even, under certain circumstances, requiring) rules and regulations for delivered prices which would include freight charges (actual or arrived at according to some formula) from mill to destination. Accordingly, such rules had been established in every division for which prices had been set and in only six divisions, as we have seen, did they require simply the addition of actual freight. That subsection (i), vaguely, generally phrased, had been intended at the outset to play so important a part in the structure of cost protection prices seems at least doubtful. The attitude of the National Recovery Administration is likewise not clear. That the necessity for such regulations was not foreseen by government officials seems to be indicated by the absence of any specific provision or authorization for their establishment, and also by the following recommendation contained in a report (**) on the lumber industry prepared by the (then) Division of Economic Research and Planning and antedating the establishment of minimum prices: "Although minimum prices or a series of minimum prices, as described above, might be applied in various ways, the preponderance of evidence indicates that such prices should be f.o.b. mill." No explanation of why this is so or indication of what the preponderance of evidence might have been is given in the report. The recommendation had no weight with the Code Authority, and the attitude of the administration when the time came for the prices to be applied was passive.

(*) Cf. Article IX, Code of Fair Competition for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, page 98, National Recovery Administration.

(**) Cf. Sachs, Alexander, "Statistical and Economic Material Bearing on the Lumber and Timber Products Industries", page 83, September, 1933. Division of Economic Research and Planning, National Recovery Administration. (In NRA files, Lumber and Timber Products Industries.)

D. Cost determination Attempted: The Second Series of Price Bulletins.

The second period of the three into which the administration of cost protection prices under the code may conveniently be divided begins on January 2, 1934, the effective date of amended prices and rules and regulations in the Western Pine Division (published in Bulletin No. 7, Volume I of the Lumber Code Authority). This is the first division for which amended prices appeared. From that date until June 26, 1934, a series of Lumber Code Authority Price Bulletins were published (from No. 33 to No. 133 of Volume I), one or more for each of the 35 divisions in which prices had been established and one or more for each of 9 fabricating divisions and subdivisions (*) in which cost protection prices were instituted during the period.

In December, 1933, the National Recovery Administration had announced a general hearing on the Code for the Lumber and Timber Products Industries for the purpose of hearing complaints and other testimony relative to the operation of the code provisions. A number of complaints had been received from members in certain divisions and subdivisions against the operation of the divisional delivered price equalization systems. Producers, particularly in the oak flooring industry, who before the code had enjoyed a freight rate advantage in shipping to certain markets and now found themselves required to equalize freight with producers not so favorably located, protested what they termed discrimination.

The hearing on the subject of the pricing rules and regulations opened on January 9, 1934 and continued until January 13, 1934. There were three general classes of witnesses: first, the complainants, for the most part, as has been stated, members of the industry who objected to delivered price equalization as enforced in their respective divisions because they were required to give up natural freight rate advantages. Second, there were representatives of the Authority and its divisional agencies who defended the equalization rules established stating, first, that it was impossible to sustain weighted average cost protection prices without them and second, that the particular rules in effect preserved the established pre-code division of markets and produced a net realization (for each division) neither above nor below weighted average costs. Third, and finally, there were representatives of the administration, economists associated with the National Recovery Administration's Consumers' Advisory Board, who analysed certain of the equalization methods in effect from the point of view of economic theory, found against the use of basing points and other methods involving the addition of non-existent freight to form delivered price as uneconomic

(*) Including the manufacture of wooden packages and containers, veneers, plywood, etc.

and unfair to the consumer, and challenged the existence of authority for such regulations in the code. (*)

None of this testimony produced any conclusive or significant evidence of the soundness or unsoundness of the methods under discussion. The complaining members of the industry were apparently unable to see beyond their local situations, failed completely to understand the economic problems involved and alleged little that was not obvious from an examination of the regulations in question. Thus it was quite clear that shippers located freightwise near markets were required under the rules in effect in nearly all divisions to add non-existent freight or otherwise equalize delivered prices with mills located freightwise distant (relatively) from the same markets. Similarly the Code Authority representatives presented the obvious reasons which made delivered price equalization necessary to the maintenance of weighted average cost protection prices; they did not present data conclusively demonstrating the soundness of the particular methods of equalization in use, such data being, beyond a doubt, not available. They thus defended the principle successfully, failed to defend their application of it as adequate. The argument of the representative of the Consumers' Advisory Board was clearly based upon a pre-conceived opinion that the use of basing points or any other equalization method which involved the charging of non-existent freight by certain mills in shipping to certain destinations was unsound. This premise was not supported; the witness confined himself to showing that the rules and regulations in effect were characterized by this practice; which, again, was clear from an examination of the rules and regulations.

The January hearings brought inescapably to the attention of the administration the application of the minimum prices as delivered prices by the Lumber Code Authority, under the assumed authority of subsection (i) of Article IX. Despite the recommendation of the Consumers' Advisory Board that shippers be allowed to include only actual freight charges in delivered price, no effort appears to have been made by the National Recovery Administration to have the Authority modify any of the divisional regulations as a consequence of this hearing, (**) or to depart from the practice of delivered price equalization. By this inaction, the administration may be said to have given implicit approval to the practice and to the loose interpretation of subsection (i) on which it was based. The Lumber Code Authority had, in fact, shifted the responsibility to the National Recovery Administration when A. G. T. Moore, Traffic Manager

(*) Digests of the testimony of these witnesses may be found among the work sheets filed with this report and a complete record of their testimony is included in the Transcripts of Code Hearings, Lumber and Timber Products Industries, National Recovery Administration, January 9 to 13, inclusive, 1934.

(**) The Maple Flooring Division is an exception; Cf. Part III of this Chapter, Section A, 2.

of the Southern Pine Association in defending the so-called "Virginia Cities Adjustment" established in his Division and in presenting the case for an extension of the principle of that adjustment throughout the Division, said "At this hearing exceptions have been filed to the basis authorized by the Code Authority to be employed in figuring 'delivered' prices . . . on the grounds that the Code Authority was not authorized under the code to in turn authorize the Southern Pine Division to effectuate such a system of delivered prices; and second, on the grounds that the public interest was injured in the process. If the first objection be well-founded the lumber code should be amended unequivocally to clothe the Code Authority with such powers" (*). This clearly meant that if the interpretation of subsection (i) were incorrect, the fact should be brought to the attention of the Authority by the Administration, whose business it was to decide such things, so that the process of amendment might begin.

The Administration did not find it necessary to correct the Authority's interpretation of subsection (i). Opinion within the National Recovery Administration appears to have been divided. On the one hand hand there was the opposition of the Consumers' Advisory Board, conveyed in no uncertain terms at the January hearing. (**) In this position, economist Worth Shoults had the partial support of the Legal Division.

A conference on January 3, 1934 between Blackwell Smith, General Counsel, Miss Bernice Lotwin, assistant counsel assigned to the lumber code throughout much of the code period, and Mr. Shoults had resulted in agreement on the following points:

1. There is no express provision in the code authorizing the use of basing points.

2. Utilization of basing points "fair to all parties concerned" might be justified under Article IX, section 13, subsection (i), providing for rules and regulations necessary to secure equal application of the prices, if the facts required basing points for this purpose.

3. Fixation of minimum prices on a single basing point for the entire United States is a violation of the code and of the Act since it is a repetition of "Pittsburgh plus" and constitutes a monopolistic practice, in the absence of facts sub-

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(*) Cf. Statement of A. C. T. Moore, Transcript of Code Hearing, Lumber and Timber Products Industries, National Recovery Administration, Washington, D. C., January 12, 1934, pp. 760-802.

(**) Cf. Transcript of Code Hearing, Statement of Worth Shoults, Lumber and Timber Products Industry, National Recovery Administration, January 10, 1934, pp. 309-70.

stantiating the necessity of the practice. (*)

In this three point agreement there is an apparent use of the term "basing points" to refer loosely to delivered price equalization in general, as applied under the code; the question itself and this discussion of it was much broader than would be indicated by the use of the phrase in its ordinary meaning. About the first two points in the agreement it was scarcely to be expected that there would be any serious difference of opinion; the wording is cautious. With respect to the third point it is difficult to separate the legal reasoning from the economic. The National Industrial Recovery Act did not expressly forbid "a repetition of Pittsburgh plus" or a single basing point system, nor did the code. The legal reasoning and the economic alike, back of this point, may very possibly derive from the Federal Trade Commission's disposition of the Pittsburgh plus case in the iron and steel industry and an identification of all single basing point systems with "Pittsburgh plus". The strength of this point of the agreement is reduced by the qualification "in the absence of facts substantiating the necessity thereof".

The Legal Division's opinion that a single basing point system constituted a violation of the code and of the Act (in the absence of conclusive evidence of necessity) was eventually applied by the Administration to the most important case in point, that of the Cadillac basing point system in the Maple Flooring Division. The finding was, presumably, important enough and the possibility of a violation of code and Act alike sufficiently grave to warrant an investigation of the necessity for any and all single basing point system under the lumber code. No such investigation was made.

Within the National Recovery Administration's Division of Economic Research and Planning there was disagreement as to the economic soundness of the equalization practices established. A report (**) issued by the Division on January 3, 1934 a few days prior to the opening of the January hearings vigorously criticized the methods followed in setting minimum prices (particularly the inclusion of certain items of cost representing fixed charges on over expanded production facilities and standing timber), recognized the necessity, once minimum f.o.b. mill prices were established, of minimum delivered prices which "will permit all producers within a division to market their lumber on a more or less equal footing", if

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(*) Cf. Memorandum written by Bernice Lotwin, January 3, 1934, Consolidated Files of the Lumber and Timber Products Industries, National Recovery Administration, folder entitled "Prices - Basing Points".

(**) Cf. "An Appraisal of the Minimum Prices as Established by the Lumber Code Authority", by Y. S. Leong, Division of Economic Research and Planning, National Recovery Administration, January 3, 1934, in the Consolidated Files for the Lumber and Timber Products Industries.

producers disadvantageously located freightwise with respect to principal marketing areas were not to be excluded from the markets; but concluded that "obviously basing point prices are harmful to the interest of the consumers. They are compelled to pay the full cost of transportation from the basing point even though no transportation is involved". Again, "the establishment of basing point prices implies an absence of price competition", and "the maintenance of non-competitive basing point prices will tend to reenforce the effect of established minimum f.o.b. mill prices or cost protection prices to perpetuate the uneconomically located and inefficient mills", with consumers footing the bill of the resultant higher costs. The economic effects of group point and other delivered prices the author considered "similar to those of basing point prices"(*).

Lumber specialists in the Division of Economic Research and Planning, closer to the administration of the code, were not prepared to recommend abolition of delivered price equalization; they found that "adoption of . . . minimum fixed prices made it necessary to add another restraint on this industry, namely, basing points. It was found that existing freight rates added to a set lumber price made it impossible for many operators to reach markets in which they had formerly sold on a parity with their competitors, who, due to a shorter haul or better freight rate, were now able to undersell them . . . Federal Trade Commission and court cases in the past which have involved basing points and price fixing were the outcome of voluntary price fixing and competitive methods devised for purpose of additional gain or trade advantage; while the same methods under this Act and under these conditions are purely for the purpose of carrying business along on a stop-loss basis until conditions improve". (**)

This opinion, that cost protection prices were an integral part of the code structure which it would be impracticable to eliminate and that the necessity for delivered price equalization followed, seems to have been shared by the National Recovery Administration's deputy

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(*) The Lumber Code Authority attempted to answer Leong's criticism in the course of the January hearings, thus: Although the use of basing points does mean that consumers near a non-basing point mill must pay freight charges from the basing point and in excess of actual transportation costs, other consumers buying from mills beyond the basing point (i.e. farther from the destination than the basing point) pay less than actual freight costs: if the system is properly administered "the excesses and differences will balance and basing points neither burden the consumer or add to industry profits; except that stability and fair competition will convert economic waste into profits or lower prices or both."

(**) Cf. "Report on Lumber and Timber Products Code, With Recommendations and in Reply to Report by the Federal Trade Commission", prepared by William B. Yost, approved by Peter A. Stone, Chief, Basic Materials Unit, Division of Economic Research and Planning, National Recovery Administration, February 18, 1934.

administrators in charge of the code for the lumber and timber products industries. In the course of a general report (*) on the operation of the code Deputy Administrator Alan Brown (who had taken a prominent part in the January hearings) stated that with market prices equal to the minimum prices delivered pricing with freight equalization and possible use of basing points is necessary:

> "It is not the intent of the code to introduce a new basis (that is, to prevent mills from meeting competitive delivered prices at various destinations) and dislocation of competition."

Basing points must, however, where used, be:

> "sufficiently widely distributed to impose no hardship on either consumer or producer."

Despite all this conflict of opinion, the Administration made no effort at this time either to induce the Lumber Code Authority to abandon any of the divisional practices or to investigate the soundness of any of the practices in the light of the criticisms advanced.

Basing point and other equalization practices already established under the code in certain divisions continued in effect and in some cases their scope was extended; other divisions inaugurating cost protection prices from time to time adopted similar practices.

The amended prices established during the second period in the administration of cost protection prices were alleged to be based upon weighted average costs in each division, as determined from the data secured in response to questionnaires sent out by the divisional administrative agencies, covering the months of July, August, September, and October, 1933. The procedure by which this data and the amended prices came to the Authority and were approved was as follows:

The Lumber Code Authority reconvened (following adjournment on November 2) on January 29, and remained in session until and including February 16. On January 29, it adopted a rule of procedure under which (unless the rule were waived by unanimous consent) all matters coming before the Authority for consideration were to be referred to an appropriate committee for examination, report and recommendation, the committee to "hold such public hearings as may be necessary". (**)

(*) Cf. "Report on Lumber Code", by Alan Brown, Deputy Administrator, National Recovery Administration, March 22, 1934, Consolidated Files for the Lumber and Timber Products Industries, Folder No. 274, "Code Reports".

(**) Cf. Minutes of the Lumber Code Authority, January 29, 1934, Exhibit "A". Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

Accordingly the determinations of weighted average cost and the item price allocations submitted to the Authority for approval by the various divisions were referred immediately to a "Committee on Costs and Prices". This committee held hearings at which it reviewed the cost statements submitted and the proposed minimum prices, and made a finding as to their adequacy and accuracy. It then reported its recommendations to the Lumber Code Authority in the form of a "docket".

This docket report filed followed a standard form covering the following points:

1. The representativeness of the data as shown by the number of mills in the division, the number of mills to which questionnaires were sent, the number represented in the reports used, their status as large or small mills, the percentage of total divisional volume represented.

2. The ceiling cost and the floor cost determined, (per 1000 board feet), and the "amount of cost (per 1000 board feet) absorbed by the proposed cost protection prices".

3. A schedule breaking down or allocating total cost to items representing 100% of production.

4. The method by which the f.o.b. mill prices were translated to delivered prices.

5. The basis upon which stumpage was valued.

6. The relation of the prices proposed to the prevailing market prices (percentage higher or lower).

7. The price differential established for products of substandard quality or produced by small mills.

8. The coordination of the minimum prices with those in effect for competing divisions.

9. The auditing of the cost reports on which prices were based, by the Costs and Prices Department of the Lumber Code Authority; also whether these reports had been audited by the division in the field.

If the costs and prices submitted were adjudged satisfactory in all of these respects, the committee recommended their approval by the Authority and the publication of the prices.

The report of the committee then came before the Authority; the latter's acceptance of the recommendation contained in the docket was virtually a matter of course and the minutes contain, ordinarily, no record of any discussion of the prices or accompanying rules and regulations for delivered pricing (*).

(*) Following the adjournment of the Lumber Code Authority on February 16 (and before it convened on January 29) the consideration and an-

Footnote continued on next page.

Throughout the life of cost protection prices under the code, the divisional administrative agencies were responsible for collecting the cost data, allocating costs to item prices and developing delivered price equalization methods. The procedure within the divisions did not differ materially from that previously described.

Although prices as amended or newly established during this second period were to be based upon cost data secured by the divisional agencies for the months from July to October, 1933, and were, therefore, to be accurately adjusted to weighted average costs, actually the data obtained was for nearly every division incomplete and unrepresentative. Large mills kept adequate accounting records and accordingly supplied a disproportionate amount of the data used in arriving at the weighted average cost figures. Even the data secured from such mills was not in thoroughly standardized, comparable form. The result was that minimum prices again were based upon more or less successful estimates and approximations of cost and item price allocations, the realizations from which were largely unpredictable. Again the prevailing level of prices and what the industry thought the state of the market would justify were called upon to resolve the uncertainty about costs. (*)

The rules and regulations issued with the new price schedules involved, for certain divisions, drastic revisions; for others, a majority, moderate changes which did not alter fundamentally the plan as originally developed, and for a few, no revisions at all. In the case of some of the divisions (notably the Southern Rotary Cut Lumber Subdivision) it seems clear that the divisional code authority had given little thought to the consequences of fixed minimum prices f.o.b. mill, when the original prices and rules were issued; as a result it later was confronted with a practical necessity for radical revision.

For the most part, however, the modifications and amendments introduced represented a process of growth, of achieving the completion and expansion of systems of delivered pricing the foundations for which had been laid with the original rules and regulations. Changes made were for the purpose of adjusting competition at the market between shippers of two or more areas (within a division) and involved no essential altera-

(*) Cf. "Report on Project Cost Protection Prices and Cost Substantiation Data of the Lumber Code Authority", prepared by D. H. Burnham, Research and Planning Division, National Recovery Administration, May 6, 1935.

Footnote continued from preceding page.

(*) proval of cost data submitted and prices proposed by the division devolved upon its National Control Committee (while that body was in session) and upon the Resident Committee at all other times. These committees acted upon the recommendation of the Costs and Prices Department of the Lumber Code Authority.

tion in policy or principle. This does not mean that all of the divisions for which this was true found the plans and methods which they initially adopted exactly suited to the freight equalization needs of the industry. It is probable that once one method (as, for example, delivered prices calculated to include freight from basing points) was in use it would appear to the industry that defects and maladjustments in the method might best be corrected by altering specific rules and regulations, (referring to the location of the points, the amount of the limitations upon absorption, etc.). The time was too short and the industry's experience with these methods too brief to make feasible, in most cases, the discarding of one method and the adoption of another. Again, there were but inadequate criteria by which to judge that one method would operate more satisfactorily than another.

A number of divisions and subdivisions during the second period issued two or more price bulletins (published by the Lumber Code Authority) the additional bulletins containing revisions in the basic prices or in the rules and regulations, or in both. The last price bulletin published during the period bore the number 133 of Volume I; appeared June 16, 1934, and was effective on June 26. From that date until July 16, 1934, no bulletins were published, the Lumber Code Authority presumably awaiting the approval of Amendment 15 by the National Recovery Administration. In all, 102 bulletins had been issued during the period (10 of which, Nos. 117 to 126, inclusive, concerned conservation regulations).

The broad interpretation under which subsection (i) of Article IX was held to justify delivered price equalization appears to have occasioned some misgivings even within the Authority. J. C. Wickcliffe, Assistant Deputy Administrator of the National Recovery Administration, reported an informal discussion (unrecorded in the minutes) during a meeting of the Resident Committee as having provoked Dr. Wilson Compton, Counsellor of the Authority and member of the Resident Committee, to question whether the Authority had, in making certain price "set-ups and applications," kept within the real intent of this section of the code. (*)

The administration of cost protection prices during the first six months of 1934 (roughly the second period into which the history may conveniently be divided) was notable chiefly for the following. The minimum prices which had been instituted under Article IX in 25 divisions and subdivisions were revised and numerous corrections and additions made; prices were established for the first time in nine divisions; the new as well as the revised prices were determined with the assistance,

(*) Cf. Memorandum from J. C. Wickcliffe to A. R. Glancy, Division Administrator, National Recovery Administration, April 23, 1934, in the folder entitled "Code Authority Committees -- Resident -- Minutes, January to July, 1934". Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

although quite inadequate, of cost data, collected in each division from a small number of (for the most part) relatively large firms. An orderly, workable process for securing coordination of prices between divisions was put in operation, replacing the hap-hazard, informal procedure which had been used previously. The rules and regulations for delivered price equalization in the various divisions underwent many changes. In certain cases these changes were such as to involve a complete departure from the essential principles of the plan originally established; in other cases the modifications introduced served rather to develop those principles and secure the evolution of the original plan, than to effect any basic readjustment in its nature.

E. Interspecie and Interdivisional Price Coordination.

During the January-February meeting of the Lumber Code Authority the process of coordinating prices as between species and divisions was greatly developed. The whole history of price coordination under the code is shrouded in uncertainty because much of the work was accomplished at meetings of the proceedings of which no record was kept. It is possible, however, to give the following reasonably dependable account of coordination. (*)

From the inception of cost protection prices in October and November, 1933, a guiding principle in effecting coordination had been to remove conflicts of opinion between divisions respecting interspecie price levels before the submission of divisional cost data and minimum prices to the Committee on (or Department of) Costs and Prices of the Lumber Code Authority.

Prior to February, 1934, this was accomplished (except in the Hardwood Division and in the Veneer and Plywood Division) through informal conferences between representatives of the administrative agencies of the divisions for which price coordination was necessary. Thus in October, 1933, representatives of the two principal softwood divisions, West Coast and Southern Pine, were able after a series of meetings (**) to reach an agreement founded upon correlation of the two

(*) This is based upon (1) a careful examination of the National Recovery Administration files, and minutes of the Lumber Code Authority, its National Control, Resident, Interdivisional Coordinating and Hardwood Coordinating Committees; (2) interviews with code authority officials and with members of the Interdivisional Coordinating Committee, such as Ralph E. Hill, its Chairman, A. S. Boisfontaine, member from the Southern Pine Division, E. C. Singler, member from the Maple, Beech and Birch Flooring Division.

(**) The National Control Committee of the Lumber Code Authority on October 13, 1933 had officially requested the West Coast, Western Pine and Southern Pine Divisions "to confer with each other in respect of correlation of their cost and price schedules". Cf. Minutes of the National Control Committee, October 13, 133, paragraph 5, in the Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

species at Chicago, keypoint of the great Central Freight Association territory, competitive battleground fiercely disputed between pine and fir for a decade or more. F.o.b. mill minimum prices for the two species were to be adjusted so that delivered prices (including rail freight charges) at Chicago would be at a parity.

The range between floor and ceiling costs (at any point within which weighted average costs might be set) made it possible for the two divisions to effect this coordination, apart from the fact, previously indicated, that it was scarcely possible to do more than approximate costs. The Southern Pine, West Coast and Western Pine Divisions had, however, cost figures which, in the words of one of the officials, "were not identical with the formula, but were complete".

This correlation at Chicago determined the general character of softwood coordination. In so far as it was necessary to do so, Western Pine prices f.o.b. Seattle were adjusted so that delivered prices at Chicago met the parity. Other minor softwoods also adjusted their prices to conform. However, little attention was originally paid to coordination of other than the 3 chief softwood divisions and as a result redwood prices proved to be initially too low relative to the other species and had later to be adjusted upward.

In these first few months the coordination of hardwood prices was not quite so informal; there was a Hardwood Coordinating Committee functioning from September, 1933. This committee not only undertook from the outset to obtain cost protection price correlation between the various subdivisions of the Hardwood Division, but also as code administrative agency was given jurisdiction over other hardwood intra-divisional affairs; production quotas were allotted by it to the Hardwood Subdivisions after the Lumber Code Authority so voted on October 21, 1933. (*)

A "Coordinating committee" for the Veneer and Plywood Division was established by the National Control Committee on October 9, 1933, prior to the establishment of minimum prices. (**) It was founded to act as agent for the Authority, in the administration of the code in the Veneer and Plywood Division, and not primarily for purposes of price correlation. Its activity in the latter field is unknown.

During its February session there was proposed to the Lumber Code Authority the institution of a permanent "Coordinating Committee on Established Minimum Prices". On February 7, a temporary committee was appointed under this name by the Chair, comprisising representatives from

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(*) Cf. Minutes of the Lumber Code Authority, October 21, 1933, in the Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(**) Cf. Minutes of the National Control Committee, Lumber Code Authority, October 9, 1933, pp. 3, paragraph 34; Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

the Northern Pine (3), Wooden Package (2), Redwood (2), Cypress (1), Hardwood (2), Northern Hemlock (1), Red Cedar Shingle (1), Oak Flooring (1), Southern Pine (2), Western Pine (2), Northeastern Softwood (1), West Coast (1), and Maple, Beech and Birch Flooring (1) Divisions(*). A Chairman was to be appointed by the committee and was to report to the Costs and Prices Committee.

On February 15, while the Authority was still in session this committee was set up as a permanent committee under the name "The Committee on Inter-Divisional Coordination of Established Minimum Prices", composed of one representative and one alternate from each division to be appointed by the division. The duties of the committee were stated as follows: to secure proper coordination of prices between divisions; to secure from divisions acknowledgements of coordination and to certify to the Committee on Costs and Prices that price changes have in fact been coordinated between all divisions; to refer its recommendations to the Committee on Costs and Prices, through which they might reach the Authority.

The Authority relieved the Inter-Divisional Committee, however, of responsibility for the Hardwood Division, stating that "the Hardwood Coordinating Committee can perform the described functions as between the (Hardwood) Subdivisions". (**)

Ralph E. Hill, previously secretary-manager of the National Oak Flooring Manufacturers Association and in charge of code administration in that division, was made chairman of the new committee. The committee had begun to act immediately. The Code Authority instructed each division (***) submitting prices to have those prices coordinated with prices for competing divisions under the direction of the Inter-Divisional Committee, the coordinated prices then to be filed with the Costs and Prices Committee. This became standard procedure preliminary to the securing of Lumber Code Authority approval for the prices and regulations.

(*) Cf. Minutes of the Lumber Code Authority, February 7, 1934, paragraph 5, in the Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration, folder entitled "Code Authority Meetings -- Minutes, January 29, - February 17, 1934."

(**) A.S. Boisfontaine, representative of the Southern Pine Division on the Committee, says that the Committee's only concern with respect to hardwood prices was to see that they had the approval of the Hardwood Coordinating Committee. Nothing like this latter agency ever functioned in the coordination of softwood prices, which coordination, after February, was always the responsibility of the Inter-Divisional Coordinating Committee.

(***) Cf. Minutes of the Lumber Code Authority, February 7, 1934, paragraph 5, in the folder entitled "Code Authority Meetings -- Minutes, January 29, - February 17, 1934", Consolidated Files of the Lumber and Timber Products Industries, National Recovery Administration.

Throughout its February session the Authority was approving minimum prices and regulations for delivered price equalization; in each case, as previously stated, these came to it in a report from the Costs and Prices Committee in the course of which the committee always stated that coordination of prices with competing divisions had been accomplished and certified to by the Inter-Divisional (or Hardwood) Coordinating Committee.

The Inter-Divisional Coordinating Committee on Established Minimum Prices continued to function under the chairmanship of Ralph E. Hill until the suspension of cost protection prices by Administrative Order No. 9-297 on December 22, 1934.

On June 14, 1934 it met and agreed to a flat reduction of $2.00 per thousand feet board measure on all softwood items chiefly used for house construction, the reduction maintaining, it was said, "present competitive relationships as between species and divisions"(*).

The coordination of prices of western pine, redwood, fir and northern pine at one time offered serious difficulties. The National Control Committee of the Lumber Code Authority at its February 17, 1934, meeting had directed the Western Pine and other interested divisions to confer upon the business of coordination and report not later than March 19, 1934. (**) Accordingly representatives of the Northern Pine, Redwood, West Coast Logging and Lumber and Western Pine Divisions met, as the "Inter-Species Correlating Committee", on March 12, 13, 14, 1934, at Portland, Oregon, for the purpose of effecting a better coordination of prices established upon those softwoods.

At the end of this time all divisions concerned were able to report to the Authority's Costs and Prices Department that coordination had been accomplished. In each division the net result of this was said to be a small reduction in the average price realization. The Costs and Prices Department reported accordingly to the National Control Committee, which unanimously approved the report and the revised minimum prices proposed. (***)

(*) Cf. Minutes of the Inter-Divisional Coordinating Committee, June 14, 1934, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration, folder entitled "Code Authority Committees."

(**) Cf. Minutes of the National Control Committee, Lumber Code Authority, February 17, 1934, paragraph 21, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(***) Cf. Minutes Minutes of Meeting, National Control Committee, March 27, 1934, paragraph 13, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

During the course of the Portland conferences Representative Boyd of the Northern Pine Division had offered a resolution which, acknowledging faulty coordination the prices established for that division, opened the way to a revamping of northern pine prices but with no basic price changes, except that "prices on Northern Spruce be correlated with Englemann spruce on a delivered Chicago basis, $1.00 allowance being made when inferior species (Balsam, Balm of Gilead, etc.) are sold mixed with Northern Spruce". (*)

Later, on April 20, 1934, the Southern Pine Association protested to the Resident Committee of the Authority against the National Control Committee's approval of the price coordination effected at the Portland conferences. The Resident Committee, however, upheld the prices and price coordination established, since the Southern Pine Division and all "interested divisions" had been invited to participate in the meetings; and as the Southern Pine Division's protest had already been presented to the National Control Committee, the Resident Committee felt that further action, if any, should be taken by either the National Control Committee or the Lumber Code Authority (**). Although at a later meeting it was agreed to reopen the business at some time in the future, it does not appear that this was ever done (***).

The correlation of Southern Pine and West Coast prices was always the primary coordination problem. On June 25, 1934, after the Authority had been in session a number of days, there were still certain items about which representatives of the two divisions were unable to agree. At the request of the chairman of the Inter-Divisional Coordinating Committee and with the approval of the Authority, the chairman appointed a committee of four to effect the necessary coordination. (****)

The committee reported on the following day, unanimously agreed on the following points:

1. That the two divisions coordinate their dimension prices on rail shipments at Chicago; "both parties have agreed to do this."

(*) Cf. Minutes of the Inter-Species Correlating Committee, March 12 to 14 inclusive, p. 7 et seq., in the Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(**) Cf. Minutes of Meeting, Resident Committee (RC-A), April 20, 1934, paragraph 12, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(***) Cf. Minutes of Meeting, Resident Committee (RC-12), April 27, 1934, paragraph 6, Consolidated Files, for the Lumber and Timber Products Industries, National Recovery Administration.

(****) Cf. Minutes, Lumber Code Authority, June 25, 1934, paragraph 4, in folder entitled "Code Authority Meetings -- Minutes, June 1934", Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

2. That to Eastern Territory, supplied by water shipment from the West Coast, all No. 1 common and lower grades of boards be coordinated on the basis of an approximate reduction of $1.00 per thousand feet on West Coast boards. That on all other grades, including dimension, prices be coordinated on the basis of no change from the present status of coordination.

3. That on water shipments of Southern Pine from the Atlantic Coast to eastern ports, specific delivered prices be established on the basis of 60% of the rail rate (as calculated according to the regulations of the division).

The committee also recommended that in all future coordination, facts be presented to the coordinating committee by all divisions, setting forth statistics as to shipments and stocks on hand of the different grades and species, and that this data be given full consideration. "In the absence of such statistics it is impractical to coordinate prices on an equitable basis. (*) This report was accepted by the Authority and the coordination effected accordingly.

As late as October, 1934, two months before suspension, the procedure for coordination of prices was not satisfactory. A more definite procedure during the long intervals between sessions of the Authority and of its Inter-Divisional Committee was urged at a meeting of the Resident Committee, which decided that the Costs and Prices Department was responsible, where a price change was requested, for initiating and determining whether necessary coordination had been effected; it was to impose time limits upon the divisions concerned, within which limits some response was to be made. (**)

On October 24 and 25, 1934, the Hardwood Coordinating Committee met at Memphis and coordinated the prices of other hardwood subdivisions with those previously approved by the National Control Committee for the Appalachian and Southern Subdivision. This action was approved by the Resident Committee of the Authority on November 3, 1934, although the Costs and Prices Department reported that "perfect coordination has not been effected and should not be expected immediately." (***)

(*) Cf. Minutes of the Lumber Code Authority, June 26, 1934, paragraph 23, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(**) Cf. Minutes of Meeting, Resident Committee (RC-43), Lumber Code Authority, October 19, 1934, paragraph 18, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(***) Cf. Minutes of the Resident Committee (RC-45), Lumber Code Authority, November 3, 1934, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

On one occasion, in September and October, 1934, a "Special Board of Review" was appointed by the National Control Committee to study and report on the coordination of prices on spruce and pine vegetable crates, in the California market. The report of this board, if one were published, was not available for this study.

There was also the problem of coordinating prices on so-called mattress lumber. This lumber is used in the improvement of the channels of navigable rivers, principally in the middle west; much of it has gone into the construction of revetements in the Missouri, Mississippi, Ohio and tributary rivers. Hardwoods of several species, fir, western and southern pine all are used, compete directly and vigorously for this river market. Coordination of hardwoods and softwoods used as mattress lumber was therefore a matter of some importance, presenting unusual circumstances. The central market or consumption point decided upon as a basis for price correlation was Kansas City, to which much mattress lumber destined for use on the Missouri River was shipped. First, coordination of prices of hardwood mattress shipped from Appalachian, Southern and North Central mills was effected. Then the Resident Committee of the Lumber Code Authority (*) voted to permit western pine, West Coast and southern pine mills to meet the competition of producers of hardwood mattress lumber "when offered in good faith at prices not below the minimum prices established for mattress lumber of the Southern and Appalachian hardwood species", as published in Bulletin No. 41 (Volume II) of the Lumber Code Authority. The action was taken "to maintain free competition among species" under section (a) of Article IX, and was effective upon the committee's approval.

In December, 1934, prices on mattress lumber for the Mississippi, Ohio and Missouri Rivers were reduced. The Resident Committee found that "hardwood and softwood mattress lumber is interchangeable. Therefore, in order to maintain competition, it is necessary to establish the same schedule of delivered prices for the West Coast, Western Pine and Southern Pine Divisions as those to be included in the hardwood bulletins now being published". These delivered prices were by zones, which were purely arbitrary; it was "impossible to ascertain either weighted average costs or weighted average freight on the competing species". (**) The new schedule of prices and their application to West Coast, Southern Pine and Western Pine mattress products was recommended to the National Industrial Recovery Board.

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* Cf. Minutes of Meeting of the Resident Committee (RC-9), Lumber Code Authority, April 20, 1934, paragraph 13, in folder entitled "Code Authority -- Committees -- Resident, January-July, 1934", Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

** Cf. Minutes of the Resident Committee, (RC-51), Lumber Code Authority, December 3, 1934, paragraph 9, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

Two other divisional coordinating committees functioned, (in addition to those mentioned). The Wooden Package Coordinating Committee, as Code administrative agency in the Wooden Package Division, undertook the coordination of the minimum prices and rules and regulations of its seven subdivisions, functioning during the June, 1934 meetings of the Lumber Code Authority and thereafter during the life of cost protection prices (*) . Its certification to the coordination of the prices of a subdivision was required by the Costs and Prices Committee of the Lumber Code Authority as a condition for approval. There was a similar committee for the Woodwork Division, during the same period; this committee also certified to the coordination of the prices and regulations established in each of its subdivisions (**) .

In response to complaints by West Coast shippers of fir to Atlantic coastal markets against the unregulated water shipment of southern pine, the Inter-Divisional Committee brought about adoption of a regulation requiring southern pine cargo shippers from Gulf and south Atlantic to eastern ports to add 60% of the transportation charges which would apply under code rules if the mill shipped by rail.

This matter of coordination between southern pine shipped by rail and water and Douglas fir shipped through the canal by water to Atlantic coastal markets was never satisfactorily determined (See Chapter II, Part III, section A 1).

The end of the period of cost protection prices on December 22 found the 60% rule in effect only a few months, but, according to responsible members of both divisions, obviously inadequate. Some strengthening of the transportation charge requirements in effect for water-shipped pine was probably inevitable, had prices continued in effect (***) .

The correlation of delivered prices of fir and southern pine struck another unlooked for snag shortly before Administrative Order No. 9-297 put an end to cost protection prices.

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* Cf. For example, Minutes of the Lumber Code Authority, June 26, 1934, Exhibit "A", Docket 90, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration, and other similar reports during the same period.

** Cf. For example, Minutes of the Lumber Code Authority, June 27, 1934, Exhibit "I", Docket 85, Consolidated Files for the Lumber Timber Products Industries, National Recovery Administration.

*** Thus A. G. T. Moore, Traffic Manager, Southern Pine Association, thinks that the freight addition to minimum prices f.o.b. mill upon water shipments might have been advanced from 60% to 80% or 90% of the addition required by the Division's regulations applying to rail shipments.

The correlation of delivered prices of fir and southern pine struck another unlooked for snag shortly before Administrative Order No. 9-297 put an end to cost protection prices.

As has been previously stated the coordination of prices for these species in Central Freight Association and Western Trunk Line territories from the outset had been on the basis of all-rail rates. There was no showing then of any water movement of fir or other West Coast softwoods through the Canal and by barge up the Mississippi River or by the Great Lakes to those territories. In March, 1934, however, the Southern Pine Association had called the attention of the Lumber Code Authority to the possibility of a disturbance of the coordination of the two species in these competitive territories through the shipment of fir at water rates. Then, in October, there was, in fact, a movement of fir through the Canal and up the Mississippi River to Chicago; this was said to total 5,500,00 feet. A considerable movement of fir through the Canal, up the Hudson River and through the Great Lakes to Cleveland, Ohio, also was reported. In both cases deliveries were at water freight rates, thereby violating the coordination.

The West Coast Division argued for the right to use rail or water rates as it chose, because (1) other divisions may also ship by water, (2) only through the use of water carriage can an industry secure relief from excessive rail charges, (3) the lower the delivered cost of lumber the better were its chances of success against competing materials. Nevertheless, the West Coast had previously objected, successfully, to the use of water rates by southern pine in shipping to eastern ports; as a result of this protest the rule requiring addition of 60% of adjusted rail rates was adopted.

The Costs and Prices Committee of the Code Authority reported on December 14 in the matter that the coordination of delivered prices between competing species had from the inception of the code been considered essential, and had been on a rail rate basis. A departure from the principle of coordination would "develop monopolies of markets for different sections of the country." It recognized, however, a question as to whether coordination should be on the basis of the lowest possible delivery charges or, "as applies at present, on the basis of rail charges". And the National Control Committee after considering the report, decided that, "since the coordination of prices is a prime requisite of the code the executive officer be directed to effect a joint consideration by all interested divisions on the subject of lumber movements by inland waterways to maintain proper coordination between competing species" (*). At this point the matter rested, when prices were suspended on

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* Cf. Minutes of the National Control Committee, December 16, 1934, paragraph 16, in the folder entitled "Code Authority Meetings, Minutes, December, 1934", Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

December 22, 1934 (*) .

Differentials for substandard products and the products of small mills seem to have occasioned maladjustments in coordinated prices. In June, 1934, it was agreed by the Authority that "the present method of dealing with price differentials in many of the subdivisions results in the establishment of two or more prices for the same quality of products in the same market at the same time". "Whereas, this is economically unsound and any system of marketing based on it bound to be unsatisfactory and involve inequities between competitors", and since "it is felt that a thorough study should be made of the entire problem of differentials, including differences in quality", a representative committee was appointed by the chairman to study the question (**) .

Again, at approximately the same time it was proposed that the inter-Divisional Coordinating Committee submit a list of key softwood items, adequate to provide representative current price data correlated as between species, and that it consider the feasibility of constructing price indices or averages for species from 1926, to be continued thereafter (***) . No effective action appears to have been taken in this direction. The absence of any record of the proceedings of the early price coordination conferences (prior to the appointment of the Inter-Divisional Committee) and the fact that (according to men prominent in the work of coordination) the basic coordination was accomplished at such conferences in the course of the Lumber Code Authority's October (1933) meetings and the meetings of the National Control Committee at Portland, Oregon, in December, 1933 -- these two circumstances have made it necessary to construct a major part of the history of coordination from the oral accounts of the participants.

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* It was clear to all concerned that coordination and intra-divisional delivered price equalization alike necessarily had to be on the basis, in any given market, of fixed freight charges on one mode of transportation. Otherwise, there would be two or more delivered prices for the same or competing species at a single destination. For this reason William E. Yost of the Division of Research and Planning in a memorandum to Leon Henderson, Director of the Division, on September 25, 1934, held it "impracticable to provide for truck transportation rates in delivering pricing".

** Cf. Minutes of the Lumber Code Authority, June 27, 1934, paragraph 31, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

*** In an approved report of a Special Committee on Statistical Forms, dated June 5, 1934, p. 3; cf. Minutes of the Lumber and Timber Code Authority, June 28, 1934, Exhibit "A", Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

With respect to the following there appears to be general agreement: Coordination of prices between competing divisions was effected primarily by the adjustment of the minimum prices f.o.b. mill (the base prices) and not by changes in the regulations governing delivered price equalization. Thus, where two divisions were to be coordinated at a central point in the principal competitive market, the f.o.b. mill or base prices might be adjusted downward or upward to secure a parity of delivered prices after established freight rates had been added (*).

Because coordination between competing divisions might thus be effected by adjustment of the minimum base prices, the interest of one division in another's regulations for delivered price equalization was primarily to see that the regulations adopted did not in some way circumvent the coordination agreed upon.

Accordingly each division's (and subdivision's) equalization system and regulations (after adoption by the industry members through the appropriate committee of the divisional agency) were submitted with the minimum prices, to the Inter-Divisional Coordinating Committee, thence, with its approval, to the Authority's Costs and Prices Committee and, finally, to the Lumber Code Authority (or one of its executive committees) for the approval upon receipt of which the prices and regulations went into effect.

It should, however, be remembered, that the provisions for delivered price equalization set up in each division were aimed principally at securing intradivisional equalization: equalization of delivered prices between shippers variously located within the division. They were submitted to the Inter-Divisional Coordinating Committee, as has been stated, to prevent misuse of the rules to defeat the purposes of coordination and also to assure adequate regulations respecting the inclusion of freight charges in delivered prices so that one division might not as a division deliberately absorb transportation charges out of weighted average costs (in this way indirectly cut prices below costs as determined). But with the precise nature of the divisional rules, the Committee was not otherwise concerned.

It was not the practice of the Authority or its committees ordinarily to alter the regulations submitted to it; differences between divisions, where there were any, were in almost every case apparently threshed out

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* As a purely hypothetical example, if Southern pine and West Coast fir were in process of coordination at Chicago as the competitive market center, and the latter were found with the addition of rail rates to item prices as allocated from ceiling costs to exceed delivered prices on pine as allocated from floor costs, the base prices on the former might be reduced down toward a realization approaching the floor while the base prices on the latter were increased toward a realization approaching the ceiling, until parity was reached. In fact, as has been stated, the indefiniteness of the cost data and of the item price allotment made the process of coordination simpler than it otherwise might have been.

in advance. Little discussion accompanying approval is recorded in the minutes of the Authority or of its committees. The report of the Costs and Prices Committee on the prices and regulations submitted by each division simply notes the nature of the equalization plan in use, and fails (ordinarily) to comment upon it.

There was one fundamental principle which, according to persons prominent in code administration, governed the coordination of prices between all competing divisions and producing areas. Cost protection prices, delivered, were intended to secure an equitable basis of competition between species in the markets shared by those species in the past, on the principle that each was to obtain approximately the proportion of total consumption of that type of lumber in that market which it had previously enjoyed. With respect to the division of markets between species and between mills producing the same species, the theory followed was, it appears, founded strictly upon a preservation of the status quo. No division or group of mills within a division was to be permitted to encroach upon the established sales territory of another group.

F. The Problem of Balancing Total Freight Charges Paid the Carriers and Freight Included in Delivered Prices in Each Division.

Efforts at improving methods of cost accounting and reporting to provide a stronger basis for cost protection prices began early in the code period. These efforts for the most part recognized the importance of securing data on freight charges and freight income in all divisions which practiced some type of equalization. (*)

(*) The Resident Committee of the Lumber Code Authority, meeting on November 13, 1933, authorized the collection of figures showing for the monthly operation of each company the volume of lumber shipped, the amount of freight paid and the amount of freight charged. Collection of this and other cost data was authorized beginning November 1. On November 23, the committee approved a resolution to be sent to all divisions, "so that there may be no hitch in the cost program" and "in order to provide a supporting method of treating freight, it is recommended that you advise your operators to keep their accounts in a manner that will show on the one hand the freight charges to customers and on the other the freight or other delivery expense actually paid. This information will be called for in cost reports. If there is not a substantial balance the extent of the variation will provide a means of determining the freight adjustment required in the minimum price schedule". Cf. Minutes of the Resident Committee, Lumber Code Authority, Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

Two things were possible where a division was not checked in the application of its freight equalization methods as well as in its cost determination, even though base or f.o.b. mill prices conformed strictly to weighted average costs: the first, that the division as a whole receive a greater income for freight (out of delivered prices) than was paid to the carriers, and thus force consumers to pay exorbitant prices; the second, that the division receive in income, net of actual freight charges, less than cost protection prices, and to that extent indirectly cut prices below cost (*).

The National Control Committee moved to solve this problem when on February 17, 1934 it resolved to require divisions, in connection with cost reports, to furnish information on freight and delivery costs and charges therefor, "so as to establish whether or not there is any profit in such freight and delivery charges" (*).

The divisional code agencies were instructed to provide separate schedules to be sent to the operator covering freight or delivery expenses to determine:

"1. Do the charges for freight in connection with the use of basing points or delivery zones result in a gain or loss when compared with actual freight and delivery charges paid?

"2. What is the amount of freight and delivery expense absorbed by the individual operators?

"3. What is the amount of any gain or loss due to over or under weights on delivery charges?"

(*) The problem was put very clearly in a report of the Committee on Costs and Prices containing recommendations for improved cost reporting methods, under the heading "Freight", thus:

"Very few, if any, of the minimum prices are on a strict f.o.b. basis. The practical necessity for avoiding that basis has been established. Instead, basing points, zoning, uniform delivered prices, etc., have been allied with minimum prices. In all of these effect has been given to a delivered cost the accuracy of which should be subject to current ascertainment. This can readily be done by requiring, in connection with the cost reports, data showing the amount charged customers for delivery as compared with the actual delivery cost. Individual adaptations will have to be made to take care of handling particular cases where such matters as l.c.l., pool and mixed car shipments, rail, water or truck shipments, etc., involve different treatment. It is therefore recommended that in connection with the cost reports, information as to freight and delivery be required so as to establish the actual cost relationship to the method of handling freight presented in the respective minimum price bulletins." Cf. Minutes of the National Control Committee, February 17, 1934, Exhibit A, p. 4; in the Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

(*) Cf. Minutes of the National Control Committee, February 17, 1934, Exhibit "A", p.4; in the Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

This data proved, however, quite as difficult to obtain as other cost data. By the time minimum prices were suspended no division (as far as is known) had obtained complete freight cost data for any representative period or had completed a study of the effect of its delivered pricing regulations upon total freight income and total freight expense.

G. Emergency Prices and Reasonable Costs: The Third Series of Price Bulletins.

Up to this time, (as will be apparent from the above), the Lumber Code Authority had had virtually a free hand in the administration of cost prices, from the collection and determination of weighted average costs to their allocation to item prices and their application delivered at destinations. In each stage of the process the restrictions placed by the code upon the Authority were neither so precise nor so specific as to hamper it in practice.

With all this, enforcement was becoming more and more difficult; increasing quantities of lumber were being sold in violation of the minimum prices or the rules governing their application. The interpretation of subsection (i) of Article IX of the code was still widely controverted, and the regulations established under its authority accordingly disputed.

To remove these difficulties, the Authority first sought to secure Administration approval for all minimum prices hitherto established in all divisions and subdivisions. Persistent efforts in this direction met with success; on June 9, 1934, the Administrator of the National Recovery Administration issued Administrative Order No. 9-34, in which he approved the minimum prices as established, for a period ending July 1; this was followed on June 27 by Order No. 9-41, in which the approval was reaffirmed and extended until further order. This action was taken, the orders stated, because required by "justice and the public interest", the existence of an emergency in the industries "threatening the impairment of employment and wage scales therein, threatening particularly the existence of small enterprises therein and threatening the demoralization of the entire industries as well as general recovery" having been shown to the satisfaction of the Administrator.

Thus, for the first time (*), the National Recovery Administration confirmed the action of the Authority, not only in the establishment of cost protection prices under Article IX, but also in fixing and requiring other than f.o.b. mill minimum prices. Although the rules and regulations for delivered price equalization were not specifically sanctioned, the general approval of prices as established amounted to an implicit approval of the accompanying rules.

(*) It was then (on June 9), seven months and two days after the first cost protection prices had been established, in the Oak Flooring, Plywood, Veneer and Maple Flooring Divisions, on November 7, 1933.

The practical importance of the approval was probably far less than was anticipated. Whatever effect it may have had upon compliance (and informed opinion in the industry supports the belief that prices were actually strengthened during June and July), was short-lived; compliance began to be poor again in August and September.

From another point of view these administrative orders appear of somewhat less importance. Had there been a thorogoing inquiry into the accuracy of the cost determination and the item price allocation and into the soundness of the delivered price equalization methods, and had approval then been possible (all things considered) on the basis of this inquiry, they would have possessed a considerable significance. In the absence of such an inquiry it is difficult to see that anything more is involved here than an unnecessary affirmation of powers clearly given the Authority under Article IX, and an implicit affirmation of certain powers only indirectly vested in the Authority under section (i) of Article IX.

The procedure created by the code did not contemplate or make necessary any such approval. It was entirely superfluous as a statement that an emergency existed, since it was the business of the Authority to determine such an emergency. Its net value was as a temporary stimulant to the structure of cost protection prices, weakened by non-observance.

On July 16, 1934, Amendment No. 15 to the Code of Fair Competition for the Lumber and Timber Products Industries was approved. This amendment radically altered the provisions of Article IX, relieving the Code Authority of the power to determine costs and establish minimum prices, and vesting it in the Administrator, and provided a pre-requisite, the Code Authority must determine the existence of an emergency serious enough to "render ineffective or to seriously endanger the maintenance of the purposes and provisions of this code or of the Act" and certify its conclusions to the Administrator, or he must determine "on his own initiative" that such an emergency existed. Under such circumstances, the Administrator might, upon application of the Authority, but only if he found it necessary to the maintenance "of the provisions and purposes of the Act", determine or cause to be determined in accordance with such rules and regulations as he might prescribe, the f.o.b. mill and/or delivered reasonable cost of any or all items and classifications of lumber and timber products and rules and regulations for the application thereof (*). Notice of such reasonable costs and rules and regulations

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(*) It should be noted that in a report dated June 8, 1934, and entitled "Text of Recommended Changes in the Lumber Code", W. E. Yost, lumber specialist of the Basic Materials Unit of the Division of Research and Planning, had suggested that to Article IX (a) there be added after "nor less than such cost of production after deducting capital charges specified in items II and 12 (b) of the section (a)" the following: "provided that, for the purpose of establishing minimum delivered prices to any market and/or prices at basing points there may be added to such cost of production an amount of freight reflecting the average cost of delivery from points of production reasonably appurtenant to said market or basing point.

was then to be given to the industry "in such reasonable manner as the Administrator may direct"; thereafter, until the Administrator declared the emergency to have ceased, "such reasonable costs and such rules and regulations for the application thereof shall constitute the minimum prices for such items and classifications of lumber and timber products for which such costs and rules and regulations have been determined". No person subject to the jurisdiction of the code might then sell at "a price less than such reasonable cost so established, or otherwise than in accordance with such rules and regulations". Revisions in the prices or in the rules and regulations were also to be at the discretion of the Administrator.

This amendment made two potentially important changes; it made the determination of reasonable costs (still to be, in fact, the function of the Code Authority as the agent of the Administrator) subject to the examination and approval of the latter who alone might establish those costs as minimum prices. Second, it placed the selection of rules for mandatory freight equalization and delivered pricing directly under his supervision and dependent upon his approval, in addition to providing explicit authority for such rules. These changes might have resulted, first, in a much more careful, more exact determination of costs and prices, second, in the establishment of sounder and more equitable freight equalization and delivered pricing practices, had the Administrator been able to do other than simply approve the findings and proposals of the Code Authority. As it was, the cost substantiation data was so meagre and the complexity of the divisional pricing problems so great that the Administration apparently found it impracticable either to supplement the data and arrive at a new determination of costs, or to investigate the soundness of the rules and regulations. The Research and Planning Division of the National Recovery Administration analysed the cost data submitted in substantiation of prices as published in the third series of bulletins (from July 16, 1934), found it, as before, inadequate for any sound determination of "reasonable" or average cost, but does not appear to have inquired into the delivered pricing practices established (*). The length of time from the date of this amendment to the suspension of cost protection prices was, however, short (about five months) and did not provide a reliable test of the new procedure, particularly since compliance with minimum prices was steadily getting worse.

Amendment No. 15 had necessitated a new determination of costs and prices, new rules and regulations for their application (**). The Lumber Code Authority, which had originally presented the amendment, was prepared for this and had submitted revised schedules for a number of divisions to the Administrator. On July 16 (the day the amendment was approved and effective) he issued an order, No. 9-46, approving these prices and regulations. This begins the third period in the administration of cost protection prices under the code, and the third series of price bulletins, appearing as Volume II.

(*) Cf. "Report on Project Cost Protection Prices and Cost Substantiation Data of the Lumber Code Authority", prepared by D. N. Burnham, Research and Planning Division, National Recovery Administration, May 6, 1935.

The order was entitled "Declaration of Emergency and Determination of Reasonable Cost of Items and Classifications of Lumber and Timber

(**) The Lumber Code Authority on July 16, 1934, through its Resident Committee, approved and transmitted to the National Recovery Administration a "certificate of Emergency for the Lumber and Timber Products Industries" and a "Finding of Fact" prepared in support of it. Both had been provisionally approved and authorized on July 10 by the National Control Committee. In the certificate, C. C. Sheppard, Chairman of the National Control Committee and Carl W. Bahr, its Secretary, reported that their Committee had investigated the condition of the industry, considering all available facts and data, and as a result had found that an emergency existed, rendering ineffective or endangering the maintenance of the Act and of the Code; that it was necessary to the maintenance of the purposes and provisions of Act and code that reasonable costs of lumber items and classifications and rules and regulations for their application be determined and established by the Administrator during the period of the emergency; that the Committee, acting for the Authority, declared the existence of the emergency and made application for the determination and establishment by him of reasonable costs on items and classifications of lumber products and of rules and regulations for their application as minimum prices for such products.

In the attached "Finding of Fact" the National Control Committee reported that it had investigated the condition of the industry and found that:

1. Present productive capacity in the manufacture of lumber was greatly in excess of current demand (domestic and export); so much so that operation at 35% of capacity throughout the industry would produce a current surplus.

2. In the absence of minimum prices this would result in sale of lumber products at less than reasonable costs of production, depletion of fixed and working capital, waste and destruction of the country's timber resources.

3. Such control of production as has been established has been insufficient to eliminate the competitive condition described, and has not been made more drastic because of resultant unemployment.

4. This cutthroat competition can be prevented only by the determination and establishment by governmental authority, of reasonable costs both f.o.b. mill and delivered, and rules and regulations for their application. Without them, the industries will be unable to continue their operations on a permanent basis, to pay the wages and maintain the working hours required by the code.

Cf. Minutes of the Resident Committee, Lumber Code Authority, July 16, 1934, Exhibits "A" and "B", Consolidated Files for the Lumber and Timber Products Industries, National Recovery Administration.

Products and Rules and Regulations for the Application Thereof". It cited the revised Article IX of the code, stated that pursuant thereto the code authority had certified to the existence of an emergency of sufficient gravity and the Administrator had determined that one existed; that it was, further, necessary to the maintenance of the code and the Act that reasonable costs of lumber products and rules and regulations for their application be established; that the costs set forth in exhibits (Lumber Code Authority Bulletins 3 to 47 inclusive of Volume II, except 13, 15, 19, 43) attached conformed to the reasonable costs of all grades of the products sold in competition with one another, were in reasonable proportion to the market prices of such grades during a representative period and met all other conditions established under the code; that the rules and regulations contained in the exhibits were reasonable and necessary to the equitable application of the reasonable costs; that, therefore, the Administrator ordered announcement of the determination to persons subject to the jurisdiction of the code, effective four days after the date of the order, but subject to suspension or modification on good cause within 15 days after effective date.

The order also, as corrected by the issuance of an errata sheet on August 8, 1934, directed the Research and Planning Division "to immediately make full study of the operation of the reasonable costs and rules and regulations hereby approved by me and to advise the Administrator with respect thereto from time to time as the results of such study and as conditions and experience may indicate to be necessary under the terms of this order and said code". It also authorized the Division Administrator, upon recommendation of the Deputy Administrator and the Research and Planning Division, to determine the reasonable cost of unlisted items where necessary, to make any revisions necessary to bring about proper coordination (except that where this resulted in a price for any item in excess of that set under the order the approval of the Research and Planning Division of the National Recovery Administration was to be obtained), to grant necessary exceptions for special circumstances, to make typographical corrections, to determine and establish /prices at/ unlisted destinations, omitted from the rules and regulations in the exhibits, and to revise the rules and regulations, wherever necessary to accomplish the purposes of the order.

All of the divisions and subdivisions in which cost protection prices had been in effect issued new price bulletins, through the Lumber Code Authority, either on July 16 (effective July 20) or subsequently. These bulletins were all approved, in groups, by Administrative Orders similar to No. 9-46 (*). They involved a general downward revision in prices of 8% and, in certain divisions, important modifications in geographic pricing regulations.

On all bulletins published on July 16 and thereafter, during the life of cost protection prices, the following statement appeared (usually on the cover): "The minimum prices and rules for their application as

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(*) Cf. Administrative Orders Nos. 9-58, 90, 91, 94, 104, 134 to 131, 141-143, 196-199, et seq. In National Recovery Administration files. Lumber and Timber Products Industries.

published in this Bulletin have been approved by the Administrator for Industrial Recovery (as Exhibit No. ___) attached to his order of ____".

The structure of cost protection prices which had shown signs of breaking down in May and June, 1934, seemed at least to be holding its own during July and August, when fifty-two of the bulletins in Volume II appeared. The month of September, however, saw a further substantial weakening of minimum prices, with, in many divisions, particularly the logging and sawmill divisions, non-compliance becoming more and more widespread. The activity of the divisions in revising prices and pricing regulations slackened correspondingly from that time on. The last price bulletins (Nos. 68 to 71 inclusive) appeared on November 22, 1934, effective on December 8, and were issued in behalf of the Southern and Appalachian, Northern, North Central and Northeastern Subdivisions of the Hardwood Division, respectively. Fourteen days after they were effective, on December 22, 1934, Administrative Order No. 9-297 was issued, suspending cost protection prices in all branches of the lumber industry.

III GEOGRAPHIC PRICING PRACTICES IN THE LUMBER AND TIMBER PRODUCTS INDUSTRIES. (*)

The lumber and timber products of the industries which were grouped under the code bearing that name were sold before the establishment of minimum "cost protection" prices for the most part at delivered prices. (**) With transportation charges, by reason of the bulk and weight of lumber, so large an element of final cost to the consumer and the product so largely standardized as to quantity, buyers were typically interested only in price delivered at destination. Under these circumstances, low f.o.b. mill prices might be of little significance, if a mill were located freightwise distant, relative to the position of competing mills, from a particular market. The complexity of the rail rate structure was such that only buyers with adequate traffic departments were equipped to compare the cost, delivered, of lumber products shipped from variously located origin points, if they were sold at f.o.b. mill prices. Concentration of timber resources in certain areas which produced greatly in excess of the consumption in those areas, coupled with extensive crosshauling, made it necessary for nearly all operators to ship to extended markets. If they were to compete at destinations throughout those markets, it was necessary for them to meet competitive prices at those destinations, and this, in turn, necessitated their accepting widely varying net yields at the mill. For all these reasons prices were characteristically quoted, not f.o.b. mill, but delivered at destination. (***)

These delivered prices were determined not alone by the competition of all operators producing lumber from the same species but also by a vigorous competition between species and producing regions. Declining demand in the decade before the code was approved joined with a number of other factors to induce severe price competition. This manifested itself primarily in low delivered prices, but it was accompanied by net yields, at the mill, which were often below cost for a majority of producers. Crosshauling and widespread mutual invasion of markets increased the inevitably high cost of lumber transportation, reduced net yields still more, and weakened the already unfavorable competitive position of lumber products with respect to substitutes.

(*) The price bulletins issued by the Lumber Code Authority on behalf of the several divisions and sub-divisions will be referred to from time to time in the course of this Chapter. These bulletins may be consulted in the files of the National Recovery Administration, Lumber and Timber Products Industries Code History, Exhibits E-1 to E-4, inclusive.

(**) The limitations of time and personnel which were imposed upon this study made impossible an extensive investigation into the pre-code and post-code pricing practices of more than a few branches of the Lumber Industry. Accordingly, the account and conclusions presented in this section must be considered wholly tentative.

(***) Where prices were quoted f.o.b. mill there was no attempt to maintain one price for all buyers wherever located; prices were reduced to meet competition at any destination at which the operator's f.o.b. mill price plus freight exceeded the delivered price (or f.o.b. mill price plus freight) of other operators.

In nearly all branches of the industry, lumber and fabricating alike, delivered prices were not calculated by the addition of freight at fixed rates from any origin point or points nor were they uniform for all destinations within defined territories. Basing points were in established use only in the flooring industries, maple flooring producers adhering fairly closely to a single basing point at Cadillac, Michigan, and oak flooring mills observing a single, base at Memphis, Tennessee with much less fidelity; two branches of the hardwood industry, the walnut and the mahogany, producing the highest quality, highest priced domestic and foreign woods, had old-established practices of quoting delivered prices which tended to be uniform at all destinationa; in the case of walnut, prices varied between defined consuming zones, and for mahogany, they were the same at all destinations in the vast territory east of the Mississippi River, to which the bulk of mahogany consumed in the United States is shipped.

When minimum prices were established under the code, the divisions and subdivisions of the industry with few exceptions found it necessary to institute delivered price equalization on a systematic basis, because, if weighted average cost protection prices were to be maintained, their members could no longer meet competitive delivered prices by absorbing at will any amount of freight. (*)

The systems devised by the divisions and subdivisions of the industry to meet this need for equalization were of three general types: first, basing points, single and multiple; second, mill and destination price group adjustments (as far as is known, as invention of the code administrative agency, without precedent in the experience of other industries), and, finally, delivered price zones. There were, in addition, several divisions and subdivisions in which f.o.b. mill pricing was practiced throughout the code period.

Fourteen divisions and subdivisions utilized one or more basing points in accomplishing delivered price equalization under the code. Of these, seven were logging and lumber divisions; two were the hardwood flooring industries, maple and oak, and the remaining five were wood fabricating industries.

The two flooring industries with little difficulty adapted their pre-code basing point practices for use with cost protection prices. In the other divisions, with the exception of the Western Pine Division, the systems were created to meet the necessities of the situation which grew out of the setting of minimum prices, and the selection of the basing points was without benefit of previous experience in their use.

The two flooring divisions had been able before the code to maintain basing points at Cadillac and Memphis because production is concentrated to a relatively high degree in those areas and because there is a small number of mills in each industry, a majority of which controlling the bulk of total production, cooperated very successfully through strong trade associations. The Maple Flooring Division's single basing point at Cadillac was more strongly established than that of the Oak Flooring

(*) The reasons which made some form of delivered price equalization a practical necessity for most of the divisions under the code have been discussed in Part II of this chapter.

Division at Memphis, precisely because it was favored to a higher degree with the presence of each of these factors.

In each case, however, the single basing point practice was modified. Immediately upon the inception of minimum prices the Oak Flooring Division added two basing points to form a multiple basing point system. These two additional points were at approximate centers of important oak flooring producing areas; mills in these areas had not for the most part adhered to the Memphis base before the code. The code administrative agency realized that these other areas were important enough as sources of supply to make imposition of a single basing point system upon the industry as a whole impracticable.

The maple flooring industry retained its single basing point system until late in the period of cost protection prices when the National Recovery Administration forced its modification to provide for two new basing points. These points were, as in the case of the oak flooring industry, at the center of producing areas, but these areas (unlike the eastern Tennessee-West Virginia and Arkansas-Louisiana areas in the Oak Flooring Division) were not important sources of supply. Their creation forced maple flooring mills in the Wisconsin-Michigan territory, supplying 84% of the total of such flooring, to absorb freight in shipping to important northeastern and middlewestern markets, as they would not have done under conditions of free competition. It probably had the additional effect of reducing average net yields for the division as a whole below the level of weighted average cost protection prices; this may be considered undesirable because, if it were sound to establish price minima (a point not under consideration here), the minima, accurately calculated, should not have been nullified, circumvented or reduced by other regulations adopted. The creation of the additional basing points occurred so late in the minimum price period that their effect upon the pricing practice of the division was unimportant and not permanent.

It may be concluded that, while the creation of two new basing points in the oak flooring industry was both sound and practicable, the attempt to establish additional points in the maple flooring industry was demonstrably unsound and impracticable. Of some significance is the fact that while, in the case of the former, the new bases have been retained in the post-code period, in the case of the latter they were abandoned simultaneously with the suspension of cost protection prices.

Of the five principal softwood species (in point of volume of output), four were sold under the code at delivered prices based on freight from one or more basing points. Only the West Coast Logging and Lumber Division, chief source of softwood supply in the United States, failed to utilize basing points to effect delivered price equalization, the device (not the equalization) as will be seen later, being unnecessary in this case.

The Southern Pine Division evolved during the period of cost protection prices an equalization system which for the purposes of this study we shall describe as a modified basing point system. Although this classification is known to be in disagreement with the opinion of executives of the Southern Pine Association, former code administrative agency for the division, it is used in the belief that the essence of their disagreement is largely terminological. In this chapter, "basing point" and the basing point practice are considered to signify only that certain producers, in

shipping to certain destinations, quote delivered prices based upon the addition of freight not from the point of origin but from some other or "basing point", and in so doing absorb or add freight according as their own rate to destination is greater or less than the base rate. Nothing else is meant or implied in the present classification, and (as in the whole approach to the investigation of geographic pricing problems taken by the unit) no preconceived opinions are held as to the soundness of the basing point practice in this or other industries.

The modified basing point system of the Southern Pine Division involved the use of multiple bases. There were three principal bases (with one alternate at Alexandria, Louisiana), at Goldsboro, N. C., Hattiesburg, Miss., and Elizabeth, Louisiana; each of these is approximately at the center of producing territory in the southeast, south and southwest respectively. Each was designed to serve one of the three large consuming territories into which, by reason of the existing lumber rail freight rate structure, the division's principal markets may conveniently be divided, Eastern Trunk Line (and New England Freight Association Territory), Central Freight Association Territory and Western Trunk Line Territory. There were several other supplementary basing points of relatively minor importance. The division's system may be termed a modified basing point system primarily because absorption of freight to equalize with the base rates was limited to specified amounts per cwt., although the absorption limits are known to have been set liberally enough to avoid excluding from any market mills which had previously supplied that market in any considerable volume.

Basing points were also established by the Western Pine Division (in which for a number of years the trade association had been sponsoring the use of a single basing point at Spokane, Washington), which secured delivered price equalization in all markets beyond the limits of the producing area by requiring addition to minimum prices f.o.b. mill of freight from the lower rated of two basing points, one in each of the two principal western pine producing states, Washington and Oregon. The Cypress Division set up three basing points, one in each of the three states in which the bulk of tidewater red cypress is produced. In the Redwood Division, split products shipped by rail were to be priced to include freight from a single basing point; other products were to be at delivered prices based on lowest freight from water or rail shipping points (depending on the method of transportation used) in the producing area, which is limited to a few countries in northern California.

Basing points were also employed in the delivered pricing of other softwood species and producing regions. The Northern Pine and Northern Hemlock Divisions established single basing points in the two states in which production of these woods is concentrated, Minnesota and Wisconsin respectively. These points were effective only upon shipments beyond the limits of the divisions (to points outside these two states). The Northern Pine Division also set up six basing points effective upon intradivisional shipments, the lowest rated point applying at any destination.

In sharp contrast with the practice of the principal softwood divisions, only one subdivision of the hardwood industry chose this way of equalizing delivered prices. The Northern Hardwood Subdivision, members of which are in large part also producers of northern hemlock, established a single basing

point t the same place selected as the single basing point for hemlock, Wausau, Wisconsin, in the subdivision's principal producing state.

Five wood fabricating industries, the Egg Case and Wirebound Box Subdivisions of the Wooden Package Division, the Special Woodwork Subdivision, the Douglas Fir Door Subdivision, and the Stained Shingle Subdivision, established basing points. The last named had a single basing point, at Seattle (the production of red cedar shingles is concentrated in the Pacific Northwest); the others used multiple basing points scattered throughout the United States and ranging from three to eighteen in number. In the other three subdivisions modified basing point systems were used.

The so-called "mill and delivered price (or destination) group adjustment" was devised by the code administrative agency for the Appalachian and Southern Hardwood Subdivision to meet the peculiar needs of that Subdivision. It was founded upon the principle of equalizing delivered prices by establishing varying minimum prices f.o.b. mill for mills at various distances freightwise from a base destination in a principal consuming territory: The minimum price plus rail freight to the destination base to be identical for all groups of mills. Delivered prices at all other destinations were to be equivalent to the lowest sum of minimum price for any mill group plus freight from a mill in that group to destination. The mill and destination group adjustment plan was used also by the North Central Hardwood Subdivision. The plan as practiced was so complex and difficult to understand that few operators were well enough informed as to its operation to follow it intelligently.

The two hardwood subdivisions described as having practiced uniform delivered pricing in the pre-code period retained these practices in the code period, with certain modifications. The mahogany industry extended the scope of the uniform delivered prices to cover the whole of the continental United States. The Walnut Subdivision made only an unimportant change in the boundaries of several of its zones. The Southern Rotary Cut Lumber Subdivision of the Southern Pine Division adopted zone delivered prices only after other regulations experimented with had created serious price maladjustments.

Other branches of the industry which created delivered price zones were wood fabricating divisions and subdivisions, five of them subdivisions of the Wooden Package Division; viz., the Plywood Package, Sawed Box, Shook, Crate and Tray, American Veneer Package, Standard Container and Pacific Veneer Package Subdivisions. Zones created for these industries ranged from two for plywood package fabricators to 70 for sawed box makers. The Stock Manufacturers' Subdivision of the Woodwork Division divided the United States into six zones for veneered hardwood doors, thirteen zones for its other products. Two subdivisions of the Veneer and Plywood Division, the Commercial Veneer and the Plywood Subdivisions and the Douglas Fir Plywood Subdivision of the West Coast Division, also established delivered prices effective for market zones.

Delivered prices uniform for all domestic markets were in effect throughout the code period for the stock screen products of the Stock Manufacturers Subdivision of the Woodwork Division; also for the products of the Standard Container and American Veneer Package Subdivisions of the Wooden Package Division until (in each case) July 20, 1934, when they

were superseded by zone delivered prices.

Of the six divisions and subdivisions which throughout the period of cost protection prices maintained a practice of f.o.b. mill pricing, only three (each a minor branch of the lumber industry) present genuine examples of that type of pricing, without delivered price equalization. These are the Northeastern Softwood Division and the related Northeastern Hardwood Subdivision, and the Broom and Mop Handle Division.

The West Coast Logging and Lumber Division (as will be seen in the section follwoing which treats of the Division) was able to achieve equalization without the enforcement of regulations requiring the use of basing points and without price zones or other devices by reason of the fact that the blanketed rail rate structure equalized rates on the rail movement of lumber ot the division's principal markets in the eastern half of the United States and in California. Water rates also were uniform for all shippers, with Pacific Coast Lumber Conference rates in effect. Water and rail movement were equalized by coordination of base prices and by permitting, where necessary (in northern California) shippers by one transportation medium to meet the delivered prices of shippers using the other medium.

Within the producing territory, where the rail rate structure could not be relied upon to secure equalization, the division did not attempt to maintain f.o.b. mill pricing. The minimum prices were set as minimum prices delivered at all destinations within the division; all shippers, whatever the distance of shipment, might quote these prices.

The Red Cedar Shingle Division achieved equalization in the same way, without provision for it in pricing regulations, by reason of blanketed rail rates from the producing territory in the Pacific Northwest. In this division, as in the West Coast Division, the minimum prices f.o.b. mill were minimum prices delivered at all destinations within the producing territory. The Philippine Mahogany Subdivision priced its products f.o.b. cars Pacific ports; this practice itself put all shippers on a party, with respect to transportation costs to any domestic destination, by rail or water. Any Philippine importer, if shipping by rail, might arrange to bring the lumber into the country at the lowest rated port to any destination.

This leaves, as has been stated, only three minor divisions and subdivisions with f.o.b. mill pricing which did not permit delivered price equalization. Even in the northeastern hardwood and softwood industry, the practice of f.o.b. mill pricing was modified, since mills in shipping beyond a certain distance freightwise from the mill might absorb freight to meet competitive delivered prices. This absorption permitted equalization in the industry's important Middle Atlantic Coast markets; in the New England producing area no equalization was possible. The Broom and Mop Handle Division practiced unmodified f.o.b. mill pricing throughout the period of minimum prices.

Whether this proved practicable in these three divisions and, if so, what were the conditions, peculiar to these divisions, which made it practicable, is not known. It was not possible, for reasons hitherto indicated, to conduct a special investigation of these divisions.

Two other types of pricing practice utilized by the lumber industry to supplement the three basic instruments of delivered price equalization are deserving of mention. The first, the provision that all mills might equalize with the freight rate from the "nearest competing mill" to meet a lower delivered price at any destination was relied upon by three divisions to secure delivered price equalization within the limits of the producing territories. These divisions were the Western Pine and Northern Hemlock Divisions and the Northern Hardwood Subdivision. All of these divisions employed basing points on shipments to markets outside divisional territory; but they were impracticable within the producing area primarily because there the movement of traffic has no general direction; transshipment predominates. The Southern Rotary Cut Lumber Subdivision for a short period relied exclusively upon the practice of equalization with nearest competing mill to secure delivered price equalization in all markets. The device proved impracticable for this purpose because it entailed heavy general freight absorption which undermined the minimum cost protection price structure. Only one fabricating industry, the Stained Shingle Subdivision, practiced equalization with nearest competing mill; and, in this case, it was restricted to less than carload shipments.

The second type of supplementary practice referred to was the limiting of freight absorption allowed to meet lower delivered prices. Eight logging and lumber divisions placed such restrictions upon absorption, and, to the extent to which the limitations were operative, so restricted delivered price equalization. These were the Southern Pine Division, The Appalachian and Southern and North Central Hardwood Subdivisions, the Cypress Division, the Northern Pine Division, the Western Pine Division, the Northeastern Hardwood Subdivision and Northeastern Softwood Division.

Of these, in three divisions, Southern Pine, Appalachian and Southern and North Central, the absorption limits were either so liberally set or so generally disregarded as to lose any possible force they might have had in restricting the shipment of lumber from uneconomical (long-haul) sources of supply. That the same thing was true of the other divisions employing the practice is considered likely, but the information obtained in the course of the study does not permit a definite statement to this effect. In the Northern Pine and Western Pine the absorption limits applied only to intra-divisional shipments. None of the fabricating industries attempted to limit freight absorption in delivered price equalization.

Whatever the theoretical possibilities of limitations on the absorption of freight in reducing crosshauling and restricting the sources of supply for any given market to those determined by research to be economical sources, they were not realized under cost protection prices. This was true, first, because the code administrative agencies had the general objective of recovery rather than reform; second, because the maintenance of minimum prices depended to a very high degree upon the voluntary cooperation of industry members; this cooperation might not be expected if large groups were alienated by regulations which shut them out of markets to which they had shipped in large quantities in the past. And, because crosshauling was so extensive in the lumber industry, a program of limitation of freight absorption, if it were to be of any consequence, would inevitably have had this effect.

It does not appear that the selection of a particular type of pricing practice by any division of the lumber industry under the code was on the basis of the suitability of the practice to the economic characteristics of that branch of the industry or that producing region. The primary consideration in the development of the equalization systems was whether or not a particular system (or practice) would support the structure of cost protection prices, assist the maintenance of those prices. The industry's first question with respect to any method proposed might be phrased as, "is it workable?"

The consideration of practicability led, however, to the adoption by groups within the lumber industry of similar types of practices. Thus, we have noted an apparent preference of the softwood divisions for basing point pricing. This type of pricing may be said to have been practicable only where there was a relatively high degree of concentration of production and, secondly, where as a result of that concentration the movement of traffic in the particular species or product had a definite general direction or directions. It was not possible where producers (of the particular species or product) and producing areas were widely scattered, where they approached common markets from a number of directions and particularly where the freight rate structure did not recognize any direction in the movement of lumber from producing territory to principal markets.

The softwood divisions met those conditions because production is concentrated to a very high degree (except in the southern pine industry, where however, it is concentrated in a line of states along the Atlantic and Gulf Coast), and because there is a definite direction to the bulk of the traffic from the producing areas in coastal or border states to principal markets in the inland states of the middle west, the north Atlantic States, and California.

The hardwood subdivisions did not meet these conditions because hardwood production of all species is widely dispersed throughout the States east of the Mississippi River (and adjoining the river on the west), in southern, Appalachian, central, northern and northeastern states It cannot be said that there is any definite direction to the bulk of hardwood traffic for this reason; the degree of trans-shipment is very high. For this reason the principal hardwood producing region, the Appalachian and southern, was forced to resort to a highly complex and artificial equalization system which involved the setting of a varying schedule of minimum prices at the mill and a further determination of minimum delivered prices at all destinations in consuming territory. It proved impossibl for this branch of the industry to devise a set of regulations from which price at destination might be readily determined by the shipper (as in the use of basing points). The same type of adjustment system was used by the North Central Subdivision, the equalization problems of which were comparably difficult.

Of the three other subdivisions having jurisdiction over domestic production of hardwood species, one used zone-delivered pricing, one f.o.b. mill pricing, and only one (the Northern Hardwood), where there was a relatively high degree of concentration of production, utilized a basing point.

The fabricating divisions of the industry were prevented from establishing basing points for similar reasons; in these industries for

the most part, production facilities are widely scattered. Most of them used delivered price zones in effecting equalization.

Zone-delivered prices necessitated, first, a definition of the zones, second, a determination of the element of freight cost to be included in the delivered prices uniform at all destinations within these zones. This process of definition and determination would be very difficult in any case; in the divisions of the lumber industry under the code it was impossible of sound and accurate accomplishment because the necessary data, particularly data as to volume of shipments of species and products moving to various markets from each producing area and the average cost of transportation involved, were not available.

While in the selection of basing points other divisions under the code were similarly handicapped by an absence of data as to distribution, sources of supply for each market, and costs of transportation of lumber to various markets from all producing areas supplying those markets, on the whole it was probably less difficult to establish an adequate basing point system because the traffic managers of the code administrative agencies were thoroughly familiar with the rail rate structure and were able to choose points approximately t production centers, the average rates from which were more apt to be equivalent to a rough average transportation cost on all shipments to the markets they served than the element of transportation cost included in zone delivered prices.

With the suspension of cost protection prices on December `2, 1934, nearly all the divisions and subdivisions of the industry abandoned the basing points, mill groups adjustments and delivered price zones which had been established to secure delivered price equalization under the code, and reverted to the irregular, unsystematic delivered pricing characteristic of the pre-code period. The flooring industries, maple and oak, maintained the basing points which had been in use before the code (the National Oak Flooring Manufacturers Association has also continued the use of the two code-created basing points at Alexandria, La., and Johnson City, Tenn.); the American Walnut Manufacturers Association (trade association for the walnut industry) retained the consuming zones in use before the code; and mahogany continues to be sold at delivered prices uniform at all destinations in domestic markets.

A. Basing Point Systems.

1. Southern Pine Division

This division included all producers and manufacturers of lumber and timber products of the several species of southern pine, in the states of Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia. Products consisted of logs, poles and piling, sawn lumber and products of planing mills operated in conjunction with sawmills, shingles, laths, boxes and crates.(*)

The division included about nine to eleven thousand mills, a large majority of which were small units. The second most important softwood producing region in the United States in point of volume of production, the South's annual output of southern pine exceeds that of any other single softwood species, including Douglas fir. As stated in Part I of this chapter, the products of the division are shipped to principal markets in the mid-western and northeastern states, where they compete vigorously with Douglas fir.

The general economic characteristics and background of this division and of other important divisions of the lumber industry will not be treated in this report, not only because they have been given adequate presentation in other studies of the Division of Review(**) but because of limitations of time and personnel in the conduct of the present study.

a. Delivered Pricing in the Industry before the Code.

Before the code, southern pine was regularly priced and sold delivered at destination. There was not, however, any system of freight equalization involving the use of basing points, nor were there price zones. Members of the industry, if they wished to sell in any market,

(*) Cf. Schedule A, Section 14 the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, page 136.

(**) Cf. particularly, "Report of the Economic Problems of the Lumber and Timber Products Industry", by the Basic Materials Unit of the Industries Studies Section, Division of Review, National Recovery Administration, March, 1936. Work Materials No.

met the current delivered price(*) in that market of the particular item, grade and size. From time to time a mill felt it necessary or desirable to cut the prevailing price at a certain point, thereby, perhaps, establishing a new price there. Some mills, producing pine of exceptional quality, commanded premium prices. But, on the whole, delivered price equalization prevailed, unsystematic and disorderly; and mills relatively distant (freight-wise) from principal consuming territories necessarily absorbed freight in order to meet the delivered prices of the nearer mills. In the southern pine industry this freight rate disadvantage of mills in the far south was largely if not wholly compensated for by lower production and stumpage costs.

b. The Original Rules and Regulations for Delivered Pricing under the Code.

Minimum cost protection prices under the code for the Lumber and Timber Products Industries were effective in the Southern Pine Division on November 9, 1933 and were promulgated in the Lumber Code Authority's Bulletin No. 5 (Volume I). The prices established were f.o.b. mill prices, as authorized by Article IX of the code. In the rules and regulations which were published with the prices in Bulletin No. 5, under the authority of subsection (i) of Article IX, the division required the sale of its products at delivered prices, not less, on all-rail shipments, than f.o.b. mill minimum prices plus actual freight charges from point of origin to destination. No equalization of freight rates as between mills variously located was provided for, except in the case of all-rail shipments from certain southeastern states to destinations in the northeast and in New England.

This exception in the original regulations came to be known as the "Virginia Cities Adjustment" and was retained in substance throughout the period of cost protection prices. Its central principles were these: mills in Virginia, North Carolina, South Carolina, Georgia and eastern Alabama (Group "1") were to sell for delivery to destinations in Eastern

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(*) It is well to remember throughout this Chapter on the lumber industry that the price at which a particular item of a certain species will sell in a given market is typically not uniform for all transactions in that item at the same time. The delivered price at which one shipment of lumber will sell may vary to a marked extent from the prices at which other shipments of the same species, grade, etc., sell at the same place and approximately the same time. There is no "current" or prevailing price in any market except in this restricted sense. The generalization is, of course, subject to exceptions. Some of the factors accounting for this lack of uniformity are imperfect product standardization with respect to quality (despite adequate grading and inspection), the varying size of the orders and shipments, confusion in distribution (as between wholesaler, retailer, broker), and the presence of distressed lumber on the market.

Trunk Line and New England Freight Association territories (*) at delivered prices only. These prices were to be not less than established minimum prices f.o.b. mill, plus freight from Goldsboro, North Carolina, to the Virginia Cities (principally Norfolk, Suffolk, Richmond, Petersburg, Lynchburg and Roanoke, but including intermediate points on the Atlantic Coast Line, Seaboard Air Line, Norfolk and Southern and Norfolk and Western Railroads) at 13½¢ per cwt., plus freight to destination point from the Virginia city freightwise nearest that point.

From origin points in eastern Alabama (on and east of the Louisville and Nashville Railroad) the freight rate as calculated from Goldsboro through the Virginia Cities was to be increased by 2¢ per cwt.; thus mills in this area were given a 2¢ per cwt. higher delivered price in eastern and New England markets (**).

Finally, mills in the state of Florida, (known as Group "2"), were required to sell to destinations in the same territories at delivered prices (on rail shipments) not less than f.o.b. mill prices plus freight from Jacksonville, Florida, to destination.

The effect of this Virginia Cities Adjustment was, clearly, to equalize delivered prices of southern pine, shipped by mills in the southeast to northeastern markets, at amounts which necessitated the absorption of freight (so that net yields averaged less than cost protection prices) by many operators, the charging of freight in excess of the carrier's charges by many others. Mills in Virginia, North Carolina, South Carolina and Georgia were thus to be permitted to serve these markets without disadvantage. Mills in other southern pine producing states, however, might not meet these prices if actual freight rates from point of origin to destination were in excess of the Goldsboro-Virginia Cities rate; they were allowed no absorption whatever. This meant, probably, that only pine shipped from Delaware, Maryland and West Virginia (and possibly some from Kentucky), in negligible quantities, could be quoted at prices competitive with the Virginia Cities Adjustment prices. Such shipments might move at less than the adjustment prices: no equalization was required (the volume was so small that no maladjustment in the equalization system would be likely to result). On the other hand, although pine from eastern Alabama and Florida was included in the scope of the adjustment, the former obviously was placed under a severe if not insuperable competitive handicap, in the form of the added freight at 2¢ per cwt. In a price market, as the lumber market proved to be under the code, such a 2¢ differential could scarcely fail to exclude the disadvantaged mills from the markets affected.

(*) Cf. Exhibit B, end of this Chapter, for the definition of the origin and destination territories used, as given in the price bulletins.

(**) This was, it is stated by representatives of the Southern Pine Association, the existing rail rate differential for eastern Alabama shippers, over the rates from Georgia points to the northeast.

Similarly, with respect to the latter (Florida pine), although all mills south of Jacksonville on the peninsula were permitted to absorb freight up to Jacksonville, they were not permitted the really vital equalization with the Goldsboro-Virginia Cities rate. This meant a delivered price differential in northeastern markets calculated to be, if possible, more effective than the eastern Alabama 2¢ per cwt. addition in shutting Florida mills out of those markets, were it not for two factors: a difference in the quality, characteristics and uses of the slash and Cuban pine species grown in Florida and the southern pine varieties found in the more northerly states; second, the opportunity to ship by water coastwise to North Atlantic ports, at delivered prices which at this time (under Bulletin 5) included only the published water rates and delivery costs, plus rail freight to final destination beyond port, the regulations permitting absorption of freight from mill to port of embarkation. Florida mills able to ship by water (as well as other southern pine producers for whom this was possible) doubtless were easily to meet the Virginia Cities Adjustment delivered prices.

But the division conspicuously made no provision for delivered price equalization by members in other southern pine producing states (from western Alabama, Tennessee and Kentucky west) in shipping to Eastern Trunk Line and New England Freight Association points, nor did it provide for any type of equalization in midwestern and north central consuming states (Western Trunk Line and Central Freight Association territories). All mills, wherever located, in shipping to these markets, added actual freight charges to the f.o.b. mill minima. Freightwise distant mills (mills in the far south and the Southwestern Yellow Pine Blanket) found themselves required to quote delivered prices in their principal markets which were in excess of those quoted by competitors nearer destinations.

Water shipments, coastwise, as noted, were to be at delivered prices including published water rates (as applicable for the time and shipment agreed on), insurance and other incidental delivery costs (as per published schedules) and freight charges to final destination beyond port. There was no provision for the application of the minimum prices to shipments by truck or inland waterway.

The Southern Pine Division's initial plan for delivered price equalization was conspicuously incomplete. It was reasonable to except from such a plan serious price maladjustments. Full compliance with the prices and regulations could not fail to prevent high freight-rated mills from sharing in markets (*) in which they had secured the bulk of their volume. Another outstanding deficiency was the failure to bring truck and inland waterway shipments within the scope of the regulations; as a result there was nothing to prevent such movement from reaching the market at delivered prices identical with the f.o.b. mill minimum prices: the possibility of absorption was unlimited. A further defect was that no provision was made for the equalization of prices on shipments within and between the producing states.

(*) This is true despite the allocation of production, because the allotment was consistently in excess of demand.

Persons intimately familiar with the administration of cost protecting prices and regulations in the division explain these deficiencies thus: mills in the southeast asked for delivered price equalization at the outset. These mills were particularly conscious, even at this time, of what fixed minimum prices at the mill would involve in the direction of excluding the less favorably located mills from common markets, in the absence of some system of equalization. This consciousness may very possibly have derived from the fact that the freight rate groups in this territory (particularly in the Carolinas and Virginia) are smaller (changes in the rates more frequent relative to distance), thus bringing the effect of freight rate differentials more strongly to the attention of industry members in this area. Further, there was an important war-time precedent for the Virginia Cities Adjustment. When maximum prices were in effect for southern pine lumber under the War Industries Board, actual prices were at the maxima and freight equalization was necessary: it was brought about through an adjustment based on the addition of freight from Goldsboro, North Carolina, through the Virginia Cities to destination. In essentials, it is said to have corresponded to the Virginia Cities Adjustment set up under the code (*). This provided a ready model for imitation when fixed f.o.b. cost protection prices which actually were at or near market prices (with no spread to allow for absorption of freight) made it once more necessary to find some way to offset the freight cost disadvantage of distant mills and permit them to enter their established markets.

No such adjustment was devised for other producing or consuming areas; operators in the other states tended to be optimistic in the belief that market prices (delivered) would be in excess of the minimum prices, permitting absorption of freight by freightwise distant mills. Also, there were not as many origin groups in the rate structure; smaller freight differentials for mills shipping largely to Central Freight Association and Western Trunk Line territory kept the problem of freight equalization in the background. The psychology of industry members in these areas apparently differed. Little thought can have been given to the consequences of the mandatory addition of actual freight charges to the minimum prices. It was not foreseen that eastern Alabama and Florida mills would be at a competitive disadvantage under the Virginia Cities Adjustment.

Optimism was dissipated when under the code the lumber market became a price market; lumber executives state that old-established trade friendships and reputations for high quality were largely disregarded. There are, of course, specialty items and woods (as Arkansas soft pine, long-leaf structural items, edge-grain hart flooring, all produced in Mississippi and the southwest) which for special uses commanded a delivered price premium in eastern and other markets; such items were not excluded by the Virginia Cities Adjustment.

Failure to provide for traffic by inland waterway and truck is accounted for by the relatively small (in fact, negligible) quantities of southern

(*) Time has not permitted an inquiry into the character of this war-time adjustment.

pine which had been transported by those media before the code (*)

It was not anticipated that the Virginia Cities Adjustment might be disturbed by mills shipping by water (coastwise), at rates permitting much lower delivered prices, or that other mills might avoid the effect of the regulations requiring addition of actual rail freight by shipping by truck (**) or inland waterway.

The deficiencies in the original equalization system soon came to the attention of officers of the divisional code agency. Complaints from the disadvantaged members were numerous and vigorous. Eastern Alabama mills called attention to their 2½ per cwt. higher delivered prices under the Virginia Cities Adjustment, which had proved a decisive competitive handicap. Florida shippers (despite the difference in the woods and the availability of water transportation facilities (***) asked for a greater base freight rate on the Virginia Cities Adjustment than the Goldsboro rate; this was refused allegedly because the division was adhering to the principle that the total of freight included in delivered prices (for the division as a whole) must not exceed the total of freight charges actually paid to the carriers.

C. Revisions in the Regulations.

When it became apparent that the original regulations were unsatisfactory and unworkable the division set about revising them, constructing a complete system of equalized freight rates from producing areas to three principal consuming territories. This was not, however, ready at the time the division's first revised prices were published, in Bulletin No. 34 of Volume I, effective January 9, 1934. Accordingly the revised prices appeared with no significant changes in the rules and regulations for delivered

(*) With the exception of lumber hauled by truck for short distances. There is no data known to be available showing the relative volumes of pine shipped by rail, water, truck, now, during or before the code.

(**) In an effort partially to correct the omission an "interpretation" was issued by the division's Cost Protection Committee on December 11, 1933, in which mills shipping by truck or water and making delivery to their customers thus were required to add to f.o.b. mill price the cost of the trucking, or the carriers' charges. In the interpretation the Committee went beyond the scope of the regulations approved by the Authority. Mills off railroad lines were permitted to absorb cost of hauling to the nearest shipping point by another interpretation issued on the same date. Cf. Bulletin No. 13, Volume I, of theSouthern Pine Division (In the National Recovery Administration Files, Lumber and Timber Products Industries Code, Code History Exhibit K-35).

(***) Florida pine competes directly with Virginia-Carolina pine on boards and roofers and certain other items; on these the northern mills were given a distinct advantage by the original Virginia Cities Adjustment. Higher delivered prices on Florida pine were not so important on other items; indirectly competitive.

pricing.

Three days later, on January 12, 1934, the division's Traffic Manager, appeared at the code hearing on the lumber and timber products industries held by the National Recovery Administration in Washington D. C. (*) He presented an intricate and complex plan for delivered price equalization which was, in substance, approved by the Lumber Code Authority two months later, becoming effective on March 13, 1934 (**)

The procedure by which this plan was developed and approved by the division and by the Lumber Code Authority, was essentially that described in Section II of this Chapter.

The division's "Special Committee on Transportation Cost Equalization", a subcommittee of its Cost Protection Committee, was composed of company sales and traffic managers, two from each principal producing state (Delaware, Maryland, West Virginia, Kentucky and Tennessee were not represented). The Southern Pine Association's staff of tariff experts worked under this subcommittee, devising regulations, arbitraries, etc., calculated to realize its objectives. The completed plan was submitted to the Cost Protection Committee for approval, thence it went to the Control Committee, governing body of the code administrative agency of the division, for approval thence (with the cost protection prices proposed) to the Costs and Prices Department (and to the committee of the same name if in session) of the Lumber Code Authority, and finally to the Authority itself (or, if the Authority were not in session, to the National Control or Resident Committee) following approval of which the regulations and prices became effective.

According to a representative of the Southern Pine Association (***), considerable research was undertaken by the Transportation Cost Equalization Subcommittee and by theTraffic Department, in the preparation of the plan. This research embraced relative amounts supplied destinations in each consuming territory by mills shipping at varying freight rates and from the

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(*) Cf. Statement of A. G. T. Moore, Traffic Manager, Southern Pine Association, representing the Southern Pine Division of the Code Authority (in the National Recovery Administration Files, Lumber and Timber Products Industries Code, Transcript of Code Hearing, January 12, 1934, pp. 760-802).

(**) The representative of the Southern Pine Division appeared at this hearing also to defend the Virginia Cities Adjustment and the principle of freight equalization against the attack of the Consumers' Advisory Board. (Cf. Statement of W. E. Shoults, Consumers' Advisory Board, in the National Recovery Admininistration Files, Lumber and Timber Products Industries Code, Transcript of Code Hearing, January 10, 1934, pp. 323-335.) Shoults' criticism was directed against the use of the Jacksonville and Goldsboro basing points, as discussed in Section II of this Chapter.

(***) This is based upon a conversation between the writer on this Chapter and Mr. Moore, Traffic Manager of the Association, in New Orleans, Louisiana.

several origin groups. Unfortunately, however, the data collected and computations involved have been destroyed. (*)

The complex mechanism for delivered price equalization which was effective on March 13, 1934 continued the Virginia Cities Adjustment (with important changes to remove inequities) and set up two other principal adjustments governing shipments to destinations (**) in, first, Central Freight Association Territory, and second, Western Trunk Line Territory.

Three principal destination territories were recognized and made the bases for three integrated delivered price adjustments, applying to all rail and truck shipments of southern pine.

(1) To Eastern Trunk Line and New England Freight Association Territories: (***)

The Virginia Cities Adjustment as previously established was retained, with a more complete equalization structure built upon it. Thus all mills in Virginia, North Carolina, South Carolina, Georgia and eastern Alabama, shipping by rail or truck (contract, common or private carrier), sold at delivered prices based on freight from Goldsboro to destination through the Virginia city or point within the switching, car ferry (except Cape Charles, Virginia) and lighterage limits thereof, freightwise nearest the destination point (with freight from Goldsboro to the Virginia Cities at 13½ cents per cwt.) The two cents per cwt. differential for mills in eastern Alabama over the Goldsboro rate was eliminated.

Mills in Florida also were to sell at delivered prices, equal to f.o.b. mill prices plus rail freight (on rail and truck shipments alike) from Jacksonville to destination. However, in order to make it possible for these mills to meet the lower delivered prices on the Goldsboro base, absorption of not more than 5¢ per 100 pounds of the rail rate from Jacksonville to destination "toward equalizing with the Virginia cities formula" was permitted. From points in Florida to destinations where through rates were lower than the Virginia cities formula rates, an addition to freight up to 5¢ per cwt. was required "toward equalizing with the Virginia cities formula".

(*) It was also impossible to locate the data and exhibits submitted by Mr. Moore in connection with his testimony at the National Recovery Administration code hearing on January 12, 1934.

(**) The term "destination" as hereafter used in this section on the Southern Pine Division includes "points within the switching, car ferry and lighterage limits" of the destination.

(***) As defined by the Division, Cf. Exhibit B end of this Chapter.

Other southern pine mills, in western Alabama, Mississippi, Tennessee, Kentucky, Missouri, Arkansas, Louisiana and Texas, were to continue to sell at delivered prices, not less than f.o.b. mill prices plus rail freight to destination, but they were permitted to absorb freight up to 5¢ per cwt. where the rail rate was higher than the Virginia cities formula rate and required to add freight up to the same amount where the rate was lower. In any event, the lowest combination of rates on the Virginia cities formula was pegged as the lowest rate basis with which all other rates to these territories were to be equalized. These rules applied to all rail, truck and inland waterway shipments.

Shipments between northern Virginia points in Eastern Trunk Line territory (on and north of the main line of the Norfolk and Western Railway were to be, optionally, at delivered prices including f.o.b. mill minimum prices, the 13½¢ freight rate from Goldsboro to the Virginia cities, and rail freight from the mill to destination; or in shipping to certain districts arbitraries of 5¢ and 11½¢ per cwt respectively might be added, in lieu of actual freight, to the 13½¢ Goldsboro rate. These optional adjustments meant that at any point the lowest of the several rates would prevail.

(2) To Central Freight Association territory (*)

Mills in southern pine producing states (in Southern and Southwestern Freight Association Territories and the state of Missouri), in shipping by rail, inland waterway, or truck to destinations in this territory, were required to sell at delivered prices, not less than the f.o.b. mill prices plus rail freight, except that absorption up to 3¢ per cwt. was allowed mills in South Carolina, Georgia, Alabama, Mississippi and the southwestern yellow pine blanket, shipping to destinations in this territory at rates higher than the rate from Hattiesburg, Mississippi.

Similarly, mills (**) enjoying a lower than Hattiesburg rate to a given destination had to add not to exceed 3¢ per cwt. "toward equalizing with the Hattiesburg rate".

Mills in Florida were compelled to sell on the basis of rates from Jacksonville to CFA destinations, but were also permitted to absorb up to 3¢ per cwt to meet the Hattiesburg rate.

Thus, the rates from Hattiesburg, Mississippi, were pegged as the lowest freight rate basis with which all other rates were to be equalized on shipments to Central Freight Association territory.

Mills in Virginia and North Carolina were not required to add freight in shipping to destinations in central territory, nor, if it should in any case have been necessary, were they permitted absorption in selling to these markets, for the purpose of equalizing with the Hattiesburg rate.

(*) As defined, cf. Exhibit B end of this Chapter.

(**) Missouri mills were not included in this provision.

(3) To Western Trunk Line Territory: (*)

Delivered prices, equal to f.o.b. mill prices plus rail freight to destination, were also required upon all rail, truck and inland water shipments from mills in southern pine producing states (in Missouri, Southeastern and Southwestern Freight Association Territories) to this territory. Absorption up to 3¢ per cwt. of rail freight was authorized to permit mills to equalize with the Elizabeth, Louisiana rate, where freight from the mill to destination was higher than that rate. Similarly, mills enjoying a more favorable rate than the Elizabeth rate were to add up to 3¢ per cwt. of freight, to achieve equalization. Excepted from these regulations were mills in Virginia and North Carolina, to which no absorptions were allowed and by which no additions were required, and mills in Florida, which were required to sell on the basis of rail freight from Jacksonville to destination, with absorption up to 3¢ per 100 pounds of the rail rates permitted toward equalization with the Elizabeth rate. In any case, the rate from Elizabeth was pegged as the lowest rate basis with which all other rates to Western Trunk Line Territory were to be equalized.

General rules and regulations issued permitted mills and concentration yards not located on trunk line railroads to absorb trucking costs (up to 3¢ per cwt.) to railroad, (if not located on any line), or absorb published locals, arbitraries and other charges over trunk line rate bases (if located on a short line), provided that such absorption did not reduce the delivered price to lower than that set by the bases pegged as lowest rates for general equalization. (as the Hattiesburg or Goldsboro rates, for example).

The regulations were definitely stated to apply to all concentration yards as well as mills - to all members of the Division.

Water shipments coastwise were to be on the same delivered price basis as before, with published water rates applicable for time and shipment agreed on, insurance and delivery costs (as per published schedules) and rail freight charges to final destination beyond discharging port added to the established minimum prices f.o.b. mill. Absorption of freight charges from mill to port was permitted.

The regulations, effective March 13, 1934, gave the Southern Pine Division a complete delivered price equalization system embracing all domestic markets into which pine is shipped in any significant volume (**)

Basic deficiencies in and maladjustments created by the original regulations were remedied. Mills in eastern Alabama were placed under the Virginia Cities Adjustment without qualification, without rate differential. New England Freight Association and Eastern Trunk Line Territories

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(*) As defined, cf. Exhibit B end of this Chapter.

(**) West of Western Trunk Line Territory and the southwestern yellow pine blanket, west of Oklahoma and Texas, is Douglas fir and Western pine territory. Only negligible quantities of southern pine had been shipped there; at any rate, the Division would naturally wish its members to be unencumbered, "stripped for action" in selling to such markets.

were opened to southern pine mills in all other producing states from which higher freight rates were in effect, by permitting equalization with the Goldsboro-Virginia Cities rate: provided that the absorption necessary to equalize did not exceed five cents per cwt. This meant that, with respect to these markets, the division had decided to extend greatly the application of the principle of delivered price equalization, but not to include the whole of the division, since the effect of the five cent absorption limit was definitely to exclude members freightwise distant from these territories from shipping there.

The equalization of prices in CFA and Western Trunk Line Territories based on, respectively, the Hattiesburg and Elizabeth rates opened these markets to freightwise distant mills, allowed them to meet the competitive prices established there by the lower-rated mills, but here again the three cent limit on absorption indicated that the division had decided not to extend the equalization indefinitely. Any mill which required a higher absorption was placed at a competitive disadvantage tending, in the absence of offsetting circumstances, to bar it from the market.

This would indicate a definite policy on the part of the division to utilize the cost protection price structure to reduce crosshauling, and to reserve certain markets and consuming areas to mills within an economic distance freightwise from these markets. The suggestion is supported by the division's action in limiting, on the other hand, the addition of freight required of short-haul shippers, near the market, in equalizing with the base rates (these limits were five cents for the Virginia Cities Adjustment and three cents for the Hattiesburg and Elizabeth adjustments). This meant that any mills shipping to points in these areas at differentials of six cents or four cents, respectively, under the base rates were given a competitive advantage (in the form of delivered prices lower by excess of the differential over three cents or five cents) there, presumably to promote the use of lumber from the short-haul mills.

Truck and inland waterway shipments were brought within the equalization system, on precisely the same basis as rail shipments; the system was founded on the rail rate structure, and whatever the mode of transportation (*) delivered prices were to include equalized rail rates. Any other method would, of course, have meant the nullification of delivered price equalization: it was wholly impracticable to have in the same market one equalized price for rail shipments, another for truck shipments.

Water shipments coastwise were still not within the scope of the equalization system, since formation of delivered prices based on published water rates meant delivered prices lower than the rail shippers could quote.

By what methods the points employed as bases or basing points were selected is not known. As has been stated, the data and computations used are said to have been destroyed. Most of what is known was obtained from executives of the code administration agency. Information received from this source is to the effect that the base points were chosen in each case because the freight rates from the point to destinations in its respective destination territory on the average approximated the

(*) Except water shipments coastwise, moving at published water rates.

weighted average freight rate of all mills normally supplying those destinations; the weighted average was computed from the data collected or available for the purpose, showing volume of shipments from origin groups to destination groups over a limited period of years. How adequately this procedure was carried out will, of course, never be known, but it appears probable that lack of the requisite data as to the source and destination of shipments prevented anything other than a rough approximation of the points calculated to secure this desired precise balance between total freight income and actual freight expense for the division.

Be that as it may, the contention of officers of the division is that the proper average freight rate was arrived at first and the selection of a group or base point made to conform to this rate. The average net yield for all mills would thus be equal to the weighted average cost and maintain cost protection prices, if the calculations were correct and there were no change in relative amounts supplied each market by the respective areas. Application of this process logically meant that each base point selected would be at what was roughly a geographic center of production for its origin group. But such a point was not necessarily itself a production point; thus there is (according to Southern Pine Association representatives) no southern pine mill in Hattiesburg, although there are mills about Hattiesburg shipping at Hattiesburg rates.

Information received from the same sources makes it clear that the limitations on addition and absorption of freight were not intended to effect any considerable reduction of crosshauling, although this would superficially (without knowledge of the rail rate structure in effect for pine) appear to be the case.

As a matter of fact, according to persons active in affairs of the division, the limits were intended to permit all mills and producing districts which had previously shipped to each destination territory in any volume to continue to ship there (in the case of the absorption maxima; and the maximum additions required were large enough to bring within the scope of the equalization all short-haul mills or groups of mills able to supply any considerable part of the demand in each territory: these mills were not permitted to expand at the expense of the freightwise distant shippers. Thus (as the division's Traffic Manager estimated in the course of an interview with the writer) the five cents and three cents per cwt. maxima had the effect of equalizing delivered prices for fully 95% of the established pre-code supply of southern pine (in volume of shipments) for each destination territory. For practical purposes the equalization of freight rates for nearly all mills shipping to each market in quantity was accomplished. No change in the status quo with respect to sources of supply was envisioned, or, in fact, resulted. However, the fact that limits were set is evidence, representatives of the division say, that the code administrative agency successfully resisted pressure to permit unlimited freight absorption, and sought to eliminate from each market at least the fringe of uneconomic long-haul sources of supply; these would be producers who had not in the past established themselves there.

It is to be noted that Virginia and North Carolina operators were at this time not required to equalize with the base rates in Central Freight Association and Western Trunk Line Territories; thus their de-

livered prices would include the f.o.b. mill minima and freight to destination. These mills compete with Douglas fir moving intercoastal via the Panama Canal and Hampton Roads and by rail to CFA territory in the interior. The division did not care to handicap its Virginia and North Carolina mills (enjoying low rates to CFA territory) in this important inter-specie competition. These reasons could not, however, have applied to the Western Trunk Line Territory Adjustment, since fir moves to western markets by rail and the volume of Virginia and North Carolina pine shipped there is small. What lay behind this exception is not known.

The regulations effective March 13, 1934, had not provided for intra-divisional equalization. This problem had presented serious difficulties. At the National Recovery Administration Code Hearing in January, Mr. Moore (in the testimony previously referred to) had said that there was then no necessity for placing mills on a common delivered price basis within producing territory, nor was it advisable, because relatively short hauls were involved and trucks were an important competitive transportation factor: equalization such as that proposed for more distant markets would, he thought, drive the short haul business from the rails (large buyers of lumber) to the trucks. Again, if absorption were limited, the determination of the limits, with rate differentials higher for short hauls in proportion to distance, would be impracticable; "some mills would always be across the border line; cost recovery price disintegration would be imminent". And as things were, the possibility of local monopoly by any single short-haul lowest rail rate mill in a local market was obviated by available trucking facilities at low rates. Finally, equalization was not essential, since without it disadvantages to a mill (resulting from high freight rates) in one local market tended to be largely offset by its advantages in another.

Nevertheless, the division later decided to attempt it. A special sub-committee under the Cost Protection Committee of the division was appointed to consider the problem. It met on March 13, 1934, and devised a plan founded upon a ten cent per cwt. minimum freight rate. Transactions within and between the principal producing states were to be at delivered prices composite of f.o.b. mill minimum prices and freight of at least ten cents per cwt., whatever the actual cost of transportation by rail, truck or inland waterway. Mills from which rail rates to certain destinations exceeded this minimum were permitted to absorb up to five cents per cwt. in meeting competition within and between the specified states. No absorption of or addition to freight rates was to be permitted in Texas because "the situation there is different from that of any other southern state in that the Texas rail rate structure now in effect (a group adjustment) equalizes practically all normal competition between mills therein and thereto." An independent solution also was recognized to be necessary for the states of Kentucky and Tennessee, producing states but more important as "common consuming markets for the manufacturers of southern pine in the entire southern pine producing area. An adjustment along the lines of the adjustment worked out to Central Freight Association Territory will be evolved

thereto." (*)

The sub-committee's plan for intra-divisional equalization and other less significant new provisions were approved by the Authority in April and May, appearing in Bulletins No. 101 and 107 of Volume I, effective, respectively, on April 20 and May 8, 1934. The intra-divisional regulations governed shipments by rail, truck or inland waterway (except on direct sale to railroads) within and between Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia south of the main line of the Norfold and Western Railway. Prices in Oklahoma and Texas were, as indicated, to be on a delivered basis at not less than f.o.b. mill prices plus rail freight, whatever the origin of the lumber. Moreover, on the shipments to points in border territory in western Louisiana and western Arkansas, where rates from Texas and Oklahoma mills were less than the ten cent minimum, the lowest such rate was to apply; Louisiana and Arkansas mills were permitted to absorb up to five cents per cwt. to equalize with it.

This ten cent minimum rate for intra-divisional shipments was not selected on the basis of computations by the division's Traffic Department, data collected by it, or other research. It was, rather, "picked out of the air". (**) Here, again, the limiting of freight absorption to five cents per cwt. would seem to indicate a policy on the part of the Association to define the limits of the producing area which, economically, should serve a given market: within the division, no mill more than 15¢ freightwise from any destination was to be permitted to serve that destination. In the great majority of cases, say executives of the former code administrative agency, it was unnecessary for a mill to absorb as much as five cents in shipping to places to which it had normally shipped before the code. As a result, few complaints are said to have been received concerning the operation of this provision.

These bulletins did not, however, make provision for the Kentucky and Tennessee adjustment suggested by the sub-committee.

Other changes effected by these bulletins established an alternative base at Alexandria, Louisiana, on shipments to Western Trunk Line Territory points to which no through rates from Elizabeth, Louisiana,

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(*) Cf. Code Bulletins of the Southern Pine Division, Volume I. No. 27, March 21, 1934 (In NRA files, Code History of the Lumber and Timber Products Industries, Exhibits X-33). This bulletin also recognized that in the delivered bases effective March 13, "100% perfection is not achieved", and that "where supported by satisfactory facts, relief should be granted in individual instances" if certified to by the District Committees and if the hardship was worked "in markets normally served."

(**) Again, this is based upon information received by the writer from executives of the division.

applied; (*) and divided the state of Florida into two origin groups, that east of the Apalachicola River (including the peninsula) taking Jacksonville rated to each of three destination territories, that west of the river required to add lawful rail freight rates to minimum prices on shipments to all three territories. However, absorption of as much as five cents per cwt. toward equalizing with the Hattiesburg and Elizabeth (or Alexandria) rates was permitted all Florida mills, wherever located. Similarly, Florida mills were required to add up to the same amount in any case to which lower than the applicable base rate applied. The division of Florida is possibly explainable thus: the western part of the state was found to be more competitive with western Alabama than with the Florida peninsula. Also, the Jacksonville base had been set up primarily to permit the peninsular mills to absorb the excess freight (1 to 5 cents per cwt.) up to Jacksonville. The western Alabama mills were at no such disadvantage; they were better off on the basis of adding actual freight than tied to (in many cases) higher Jacksonville rates; the former allowed greater absorption to CFA and WTL territories.

D. Further Revisions In The Regulations.

The revised equalization system (as it was on May 18, 1934, the effective date of Bulletin 107) was not yet adequate. The Special Committee on Transportation Cost Equalization met on May 21 and 22; its findings were approved by the Cost Protection Committee on May 24 and by the Control Committee of the division on the same date. (**) Certain important modifications were approved, but it was decided that once these were in operation the system should "stand unchanged in fundamental aspects for a period of at least six months", by mandate (if it could be secured) of the Code Authority. What was then greatly needed, it was thought, was stabilization. "All possible (***) methods" of transportation cost equalization had been studied and considered during the period since the establishment of cost protection prices, and that finally developed and perfected seemed to be the only one adequate for the needs of the division.

(*) Rates from Alexandria to certain destination points on the Missouri Pacific Railroad are lower; in nearly all cases the rates from the two points are the same, since both are in the Southwestern Yellow Pine Blanket.

(**) CF. Code Bulletins of the Southern Pine Division, Volume I, No. 37, May 31, 1934 (In NRA files, Lumber and Timber Products Industries, Code History, Exhibit K-33)

(***) The basing point system had been rejected, it was said, because of past condemnation by the courts. Open prices with unlimited freight absorption were rejected because not adaptable to the division's internal or inter-specie competition, or in any other respect. The so-called "equated f.o.b. mill price and transportation cost equalization" was also rejected as similarly not adaptable and destructive of cost protection. Subdivision of destination territory into zones to which average rates would apply was considered "impractical and productive of discord as between dealers at destination."

The industry's position was declared to be that the principle of harmonizing high, low and intermediate costs through a weighted average should be maintained through the medium of transportation equalization so that, "in the aggregate, cost protection realization should neither be augmented nor decreased, nor should transportation equalization operate to a point where dumping by lowcost or any other types of operation in markets not normally served by them be encouraged". The completed system was recommended to the Resident Committee as likely to achieve these objectives. The division emphatically wished to be retained unchanged fundamentally for at least six months. (*)

A basic change proposed concerned the treatment of shipments from Virginia and North Carolina points to Central Freight Association Territory. Under Lumber Code Authority Bulletins No. 82 and 107, mills in these states had not been required to equalize with other southern pine mills; the exception was intended to assist these mills in their competition with intercoastal Douglas fir, backhauled by rail from port to destinations in CFA territory. A large number of complaints had been received, from the trade and from manufacturers. The exception had given Virginia and North Carolina mills an effective price advantage in many CFA markets. Tonnage shipped from these states into "central markets not normally served by them" had increased greatly, far in excess of the seasonal, an investigation by the division disclosed. Data reported to the division by Virginia - Carolina mills in January, February and March, 1934, showing shipments to 3 CFA states, Indiana, Michigan and Ohio, was presented in support of this (**)

For these reasons the Committee proposed and the division approved "transportation cost equalization" for Virginia and North Carolina mills shipping into CFA and WTL territories, on the terms and conditions in effect for southern pine producers in other states.

Another important change approved was the abolition of the limits upon additions required of short-haul mills toward equalizing with the base rates. The effect of these limits in "innumerable situations" was to equalize the rates of certain mills, adding not to exceed three cents per hundred pounds, while failing to equalize the rates of their immediate competitors. The latter, upper bracket (short-haul) mills with a better than three cents rate advantage, retained the full amount of the differential in excess of 3¢. Thus intermediate mills were forced to give up prior advantages over long-haul competing mills, while other shippers, some of them "important mills with large and diversified capacities", continued to enjoy differentials.

If only five percent or less of total shipments were not equalized, as executives of the division estimated, it appears unlikely that a major

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(*) Cf Letter from A. G. T. Moore, Traffic Manager, Southern Pine Association, to J. W. McClure, Chief, Department of Costs and Prices, Lumber Code Authority, May 26, 1934, (Copy in NRA files, Lumber and Timber Products Industries, "Prices - Basing Points" folder.

(**) Cf. Table 7, Appendix.

maladjustment was here involved. It has been impossible to determine the volume of southern pine moving at the unequalized rates. That the estimate of five percent may be somewhat low is indicated, but by no means conclusively, by the protests received by the code administrative agency, in sufficient volume to motivate a revision in the regulations.

These two changes would achieve complete "short-haul transportation cost equalization", with the Elizabeth, Hattiesburg and Virginia Cities formula rates the minimum rates to their respective territories from all southern pine producing points, on rail, truck and inland waterway shipments. They were not, of course, effective until the approval of the Authority had been secured.

Limits on freight absorption were not to be removed; the division wished "to equalize all mills in their normal markets and yet to prevent dumping in markets not ordinarily served by them". The limits were, however, to be increased to 5¢ per cwt. for mills meeting the Elizabeth (or Alexandria) and Hattiesburg rates. Pressure from the long-haul mills is the logical explanation for this action although the subcommittee did not report this as the reason. On the other hand, maximum absorption for eastern Florida mills shipping to Eastern Trunk Line and New England Freight Association Territories was reduced to 3¢ per 100 lbs. of the Jacksonville (proper) rates (peninsular mills still to absorb the excess over Jacksonville); this was to correct a "present inequality with respect to the West Florida group".

The mandatory equalization with the Elizabeth rate was not to apply to mills at the western border line of competition between southern pine and Douglas fir; southwestern mills (in Arkansas, Oklahoma and Missouri) were not to be handicapped in this territory. Since Douglas fir shippers enjoyed uniform rail rates (by reason of a blanketed rate structure) to these territories, the division decided to put its southwestern members on the same basis by permitting them to add actual rail rates in shipping to points in WTL territory where transcontinental lumber rail rates were less than 72¢ per hundred pounds. At all other points the regular addition was required. Mills with higher than the Elizabeth rates might, of course, equalize with those rates. The 72¢ rate was used to define the limit of this no-man's land of interspecie competition because pine and fir had been coordinated on the basis of the 72¢ transcontinental fir rate, centering at Chicago. Iowa, northwestern Missouri (including Kansas City, the state of Kansas and territory north and west enjoyed lower rates on fir which gave that species an advantage on the basis of the existing coordination.

The division also approved at this time the Special Committee's proposal for equalization in Tennessee and Kentucky. These states were to be treated "in the main as consuming rather than originating states". The Hattiesburg base rate was to apply to west Tennessee and west Kentucky as a minimum with absorption up to five cents per 100 lbs. permitted mills in all southern pine producing states east of the Mississippi River and in the states of Louisiana and Arkansas. For east Kentucky and east Tennessee an adjustment which "will properly meld into the west Tennessee and west Kentucky adjustment" was to be devised. The traffic department was to define the two areas.

One abuse which the new Kentucky-Tennessee Adjustment was expected to remedy centered around a border situation at the Ohio River. The general intradivisional equalization in effect for southern-pine producing states provided for a ten cent minimum rate with a maximum absorption of five cents (per cwt.). The CFA Adjustment, on the other hand, required addition of freight from Hattiesburg and a maximum absorption of three cents. Certain mills were, therefore, shipping to south bank Ohio River points (in Kentucky) and having their shipments trucked across the river into Central Territory. The new adjustment placed south bank as well as north bank points on the Hattiesburg base rate.

The prevailing intradivisional adjustment within and between other states was not to be modified, since "no substitute more equitable or simple in operation had been found."

Finally, absorption of freight to port on coastwise water traffic (authorized by LCA Bulletin No. 107, Section 5, paragraph k) was to be prohibited, because it had permitted certain rail shippers to invade territory formerly served by tidewater and nearby mills, while discriminating against rail shippers unable to so absorb. Such shipments in the future were to include rail freight to port of embarkation.

The proposed modifications were brought before the Lumber Code Authority on June 27, 1934, as Docket No. 64, a report of the Authority's Costs and Prices Committee. (*) They were approved on the same date, (by vote of 14 to 5 of the membership of the Authority, in executive session) (**) effective July 20, 1934. As finally adopted, they were substantially as described above. The Kentucky-Tennesse adjustment had been completed and shipments to points in these states and to western West Virginia were to accord with rules which may be summarized thus:

(a) To western Kentucky and western Tennessee, as defined, the rail rates from Hattiesburg, Mississippi, were to be the minimum freight rate basis subject to equalization. Southern pine mills in Kentucky and Tennessee or elsewhere shipping from points freightwise nearer to western Tennessee and western Kentucky destinations were to increase their rates to the level of the Hattiesburg rates. From origin points having higher than Hattiesburg rates absorption up to 5¢ per cwt was allowed. Eastern Florida mills were put on the Jacksonville proper basis, with, however, the same requirements as to absorptions and additions.

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* The f.o.b. mill minimum prices approved by the Authority on this date were based on reports from 317 operators of an estimated total of 10,000 in the Southern Pine Division. 136 of the reports used were from large firms, of whom there were said to be 500 in the Division. Only 650 firms were found to keep adequate records. The replies used represented 3% of the number of operators, 32% of the total production.

** Cf. Lumber Code Authority Bulletin No.8 (Volume II), effective July 20, 1934.

(b) To eastern Kentucky, eastern Tennessee, and western West Virginia destinations, as defined, the rail rates from Chapman, Alabama, Albany, Georgia, or Sumter, South Carolina (whichever lowest) were to constitute the minimum freight rate basis subject to equalization (*) . Southern pine mills shipping to destinations in these states were required, if necessary, to add freight to the level of the Chapman, Albany or Sumter rate applying, were allowed to absorb not to exceed 5¢ per cwt., in order to equalize with that rate. Eastern Florida mills, as before, were on the Jacksonville proper basis, but under the same regulations as to additions and absorptions.

Local sales at points of production in Kentucky and Tennessee were to be f.o.b. mill minimum plus rail freight from the proper basing point to the point of production.

Selection of the four basing points employed in the Kentucky-Tennessee Adjustment followed, according to the Division's Traffic Manager, (**) upon the determination of the approximate average freight rate at which pine should move into each section of the territory, if the average net yields for all producing areas (supplying it) were to be equivalent to weighted average costs. The intra-divisional minimum was not practicable here because the two states are common consuming states and not heavy producers. Thus, for western Kentucky and Tennessee the Hattiesburg rates were satisfactory, according to the division, as a fair approximation of the average freight at which pine normally moved to these markets. The same was true for each of the other three basing points, in the area

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* The East Kentucky-East Tennessee Adjustment approved by the Lumber Code Authority on June 28, 1934, contemplated the use of only two basing points, at Chapman, Alabama, and Albany, Georgia, "whichever lower" to be used in calculating freight to any destination in the territory covered by the Adjustment. This territory included only eastern Kentucky and eastern Tennessee. On July 7, 1934, at the request of the Southern Pine Association, the Resident Committee approved the addition of the third basing point, Sumter, South Carolina, and the expansion of the territory to include western West Virginia, "roughly, between a line from Bluefield to Huntington to the southwestern state line." Cf. Paragraph 5, Minutes of Meeting, Resident Committee, Lumber Code Authority, July 7, 1934. (In NRA files, Lumber and Timber Products Industries, Folder on "Code Authority Committees - Resident, January-July, 1934.")

** Information received in the course of a conversation between the writer of this chapter and A. G. T. Moore, Traffic Manager, December 14, 1935.

to which its rates were lower than the rates of the other two. (*)

The approved regulations also altered the basis for delivered pricing of lumber shipped by water coastwise; this change went beyond the recommendation of the division. Where such shipments did not move from or through Atlantic Coast ports, delivered prices were to include, as proposed, published water rates applicable, insurance and other delivery costs and rail freight charges to final destination beyond discharging port, with the addition of the element previously omitted, the rail freight from point of origin to port of shipment plus handling charges at the port. (**)

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* The adjustment proved unsatisfactory to certain shippers in Tennessee and Kentucky. It was contended by these shippers that the inferior quality of southern pine produced in these states made it impossible for them, in the local markets which they served, to add freight from the basing points or to quote prices equal to the delivered prices of mills shipping higher quality pine from the far south. Cf. Letters from the J. D. Seaborn Lumber Co., Cleveland, Tennessee, to the National Recovery Administration, Aug. 10 and 29, 1934. (In NRA files, Lumber and Timber Products Industries.)

** A committee of operators from Jacksonville, Florida, purporting to represent about 400 small sawmills in the southeast had protested to the Authority the proposed regulation forbidding absorption of freight from point of origin to point of shipment, on coastwise traffic. They contended that it would be unfair to prevent inland mills from absorbing freight charges to equalize with mills near ports of shipment. Nevertheless, on June 23, 1934, the Lumber Code Authority unanimously approved the revision in Section (k) of Bulletin 107 (Volume I).

Cf. Minutes of the Lumber Code Authority, June 20 and 23, 1934. (In NRA files, Lumber and Timber Products Industries, folder entitled "Code Authority Meetings - Minutes, June, 1924".)

Assistant Deputy Administrator J. C. Wickliffe of the National Recovery Administration agreed that the regulation would put inland mills at a disadvantage with mills at or near port, to the extent of excluding them from use of this mode of transportation. The absorption by the interior mills, he said, had been as high as 16¢ per cwt. on water shipments. Absence of conference or established rates on the Atlantic Coastal traffic had prevented control by the Southern Pine Association of freight charges to be added to f.o.b. mill prices on water shipments. Thus "it had not been possible to maintain an equal competitive opportunity between business moving all-rail and that moving by water".

Cf. Memorandum from J. C. Wickliffe to C. A. Selfridge, Deputy Administrator, June 25, 1934 (In NRA Files, Lumber and Timber Products Industries, "Prices-Transportation Rates" folder.)

However, on sales made for shipment from or through Atlantic Coast ports, delivered prices were to include, added to the established minimum prices, a water transportation charge equivalent to 60% of rail freight from originating mill to destination, computed according to the rules and regulations of the division.

This requirement that coastwise traffic in southern pine move at 60% of the rail freight determined according to the regulations of the division was promptly largely by complaints from without the division. The Lumber Code Authority undertook in June to readjust the established coordination of West Coast and southern pine lumber. The former had requested certain changes, because, it was claimed, West Coast prices at Atlantic ports were specific and definite, those of southern pine practically on an open rate basis. (The former included established Conference rates; the latter only published rates, which might vary between shipping lines.) Although the Authority's Inter-Division Coordinating Committee found no evidence that fir or other West Coast woods were being displaced in eastern markets, the 60% regulation was agreed upon as a compromise.(*)

The Southern Pine Division (in the report referred to) expressed its opinion that the difficulty had been caused principally by abuse of the provision (now amended) which permitted absorption of freight by water shippers from mill to port of embarkation. It would thenceforth be possible for only a few mills at Atlantic Coast ports (**) to ship into eastern markets "at levels reflected by recent sales." The disparity between water-borne southern pine and water-borne fir was termed not nearly so flagrant as that between water-borne fir and rail-shipped pine; the latter constituted the major part of fir's competition in those markets.

When the Lumber Code Authority approved the 60% regulation the Southern Pine Division warned it that an observer was being stationed at Norfolk to watch the volume of incoming fir at that and other ports; if it increased materially, the division could not continue to observe the rule. No such increase was noticed in the relatively short period intervening before suspension.

The West Coast Division also protested at this time, unsuccessfully, against short-haul southern pine mills in the southwest being allowed to use actual rail rates in selling in border-line western territory, as "inconsistent and unfair."

The problem of adjusting coastal water shipments was not yet solved. By August 9, 1934, the division had asked and received the Resident Committee's (Lumber Code Authority) approval of a revision of Paragraph 12 (b) of Section 1 of the Regulations in Bulletin No. 8

(*) Cf Code Bulletin No. 45 (Volume I) of the Southern Pine Division July 13, 1934. "Review of Sessions of the Lumber Code Authority in Chicago and Washington, beginning June 11." (In NRA Files, Lumber and Timber Products Industries, Code History, Exhibit K-33)

(** There are only a few southern pine mills at the sea or on tide-water.

of Volume II which would fix minimum delivered prices C.I.F. or F.A.S. destination port at 60% of the rail delivered price there as calculated on the Virginia Cities Adjustment basis; freight for rail shipment beyond destination port was to be added, at lowest applicable transportation charges to final destination plus minimum handling and unloading charges. It was inequitable, thought the Southern Pine Association, to let an interior mill quote at an interior destination on the basis of 60% of the rail rate from the mill to that point. The adjustment was to apply also to shipment by inland waterways. Approval by the National Recovery Administration was necessary before the amended rules became effective. (*)

Again, on September 21, the division proposed to the Authority a revision which would require addition to f.o.b. mill minimum price of the lawful lumber rail rate from point of origin to port of shipment (as before), but permit absorption of not more than 5¢ per cwt. of this freight, the absorption in no instance to exceed the lawful freight rate from the mill to the port. This change was approved (**) by the National Control Committee of the Lumber Code Authority. It also, of course, required approval by the National Recovery Administration.

The modifications proposed proved only partially acceptable to the Administration. The division's final Lumber Code Authority Bulletin No.8 of Volume II, effective September 25, 1934, revised the regulations governing water shipments to apply to all shipments moving to, from, or through Atlantic Coast ports or inland waterways. The 60% addition to minimum prices was specifically to be calculated on the basis of the Virginia Cities formula and was to establish minimum prices C.I.F. (F.A.S.) destination port; to such C.I.F. price a minimum charge (of 75¢ per M ft. on rough lumber and 50¢ per M ft. on dressed lumber, if sold f.o.b. dock) was to be added to cover all handling and unloading charges. Finally, when delivery was required by rail at point beyond destination port, lowest applicable transportation charges were to be added, to final destination. Other changes requested by the division were not approved.

No other bulletins were published by the Authority in behalf of the Southern Pine Division and no changes in its delivered price (or transportation cost) equalization system were introduced between this date (September 25, 1934) and the suspension of cost protection prices by administrative order on December 22, 1934.

With suspension the system of delivered price equalization and the basing points which had been identified with cost protection prices were also abandoned. Members of the industry returned to the practice of quoting approximately the delivered prices which free competition established in any market; the formation of these prices bears no relation

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(*) (Minutes of Meeting, Resident Committee of the Lumber Code Authority, August 9, 1934, (In NRA Files, Lumber and Timber Products Industries, folder entitled "Code Authority Committees, Resident, Minutes, August, 1934.")

(**) Cf. Paragraph 6, Minutes of Meeting, National Control Committee, Lumber Code Authority, September 21-22, 1934. (In NRA Files, Lumber and Timber Products Industries, folder entitled "Code Authority Committees-National Control, Minutes, September, 1934.")

to any exact element of freight from any origin point.

Official tariffs and freight rate schedules published by the Southern Pine Association during the code period gave the minimum code freight rates to points in each destination territory, that is, the Elizabeth (or Alexandria) La., Hattiesburg, Miss., Sumpter, S. C., Albany, Georgia, Chapman, Alabama and Virginia Cities formula rates. These tariffs also showed, for convenience, the delivering railroad, at each destination point.

e. Conclusions Respecting Delivered Price Equalization with Southern Pine Division

The Southern Pine Division was faced with as difficult and complex a problem of delivered price equalization under the Lumber Code as any division of the industry (with the possible exception of the Southern and Appalachian Hardwood Subdivision).

Maintenance of minimum prices was clearly impossible in this division without such equalization. Mills are scattered throughout the south, and southern pine is shipped at widely varying freight rates from points in no less than seventeen producing states. Constituting one of the two chief sources of lumber supply for the nation, the states of the division produce greatly in excess of their domestic needs and necessarily ship the bulk of their production to the northeastern and middle-western United States, markets in which they meet severe inter-specie competition from Douglas fir and other softwoods. The great disparity in freight rates from producing states to these consuming areas made it clear that if delivered prices were not equalized the mills located at relatively short distances from and enjoying low rates to the division's principal markets in Eastern Trunk Line and Central Freight Association Territories would supply a major part of the demand; longhaul mills would be unable to compete until the more favorably situated mills had exhausted their stocks. Consumption was yet so reduced that market prices were at the minima, which were likely to operate as maxima for sometime to come.

Moreover, in the determination of weighted average cost protection prices the mills freightwise distant from the principal consuming states had sacrificed advantages which had previously enabled them to compete with their more favorably located competitors. Long-haul mills characteristically had lower labor and stumpage costs than short-haul mills, compensating for higher freight charges. Equalization or averaging of production costs (or, more accurately, costs up to the point of shipment), made equalization of transportation costs essential in this division. It is not too much to say that without it the maintenance of cost protection prices would have been impossible.

As obvious as this seems, the division's original plan for equalization was partial, incomplete. From November, 1933, to March, 1934, only the Virginia Cities Adjustment was in effect. This probably meant that shipments outside the scope of the Adjustment were being equalized without authority, since the addition of actual freight by all mills to destinations in other markets, as required by the regulations,

impracticable.

The complete equalization system which was later devised and made effective in March, 1934, proved to have serious deficiencies, but many of these were removed in the months preceding suspension of the minimum prices. The process of development of the system was, on the whole, orderly and intelligent. There was an apparent willingness to correct mistakes made in the course of what was necessarily a purely experimental process.

These mistakes included (apart from the initial failure to equalize shipments to Central Freight Association and Western Trunk Line Territories, probably the most serious) a number resulting from apparent disregard for possible development of water and truck traffic in southern pine, moving at rates which, unless controlled, would constitute a threat to the continuance of delivered price equalization. Thus pine shipped coastwise to Atlantic ports and by rail inland might, until late in the minimum price period, be priced to include the actual water rates. Since these rates were not fixed, but varied, and since their application according to rules in any case would result in lower delivered prices than those effective upon rail shipments, it was clear that if the water traffic (which before the code was very little) increased largely under the stimulus of the lower rates, equalization in eastern markets would be upset. Coastwise water shipments did increase (*), but not enough to produce this result. There was, it is true, a strong reason for not equalizing prices on water and rail-shipped pine in the interspecie competitive situation in Atlantic Coast markets. Pine might thus reach these markets at lower delivered prices than fir shipped through the Panama Canal. Thus, it was that when equalization on the basis of 80% (**) of rail prices was effected it was at the instance of the West Coast Division. It is also important that under the original regulations governing coastal water shipments inland mills were not only induced to ship by water if possible but were also able to absorb freight to port of embarkation in unlimited amount; this tended to reduce the net yields for those mills below amounts calculated to maintain the average net yield for the division at the level of cost protection prices.

Another instance of conflict between the objectives and methods of divisional price equalization on the one hand and interspecie coordination on the other is furnished by the initial exclusion of Virginia and North Carolina mills from the regulation imposed upon othe southern pine producers in shipping to CFA territories. This was done, as has been

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(*) This statement is based upon information received from the Southern Pine Association. No data showing the increase is known to be available. With the expiration of minimum prices the traffic declined to approximately its pre-code volume.

(**) By A.G.T. Moore, Traffic Manager of the Southern Pine Association we are informed that the increase in water traffic continued following the adoption of this regulation and it would have been suspended in December.

stated, to avoid handicapping these mills in their intensive struggle with cargo-shipped fir backhauled from Atlantic ports to these markets. It is quite likely that the injury done the equalization system exceeded any benefit which the favored mills received.

The problem of coordination of fir and pine might have been more simply solved, it now appears, if the equalization system worked out for pine had been left complete and intact, while the coordination effected between rail shipments of the two species at Chicago was carried over to markets in Eastern Trunk Line and eastern CFA markets on the basis of a like meeting point (or points) which might be chosen (*); sufficient freight might be added to Intercoastal Conference rates on fir to bring about this coordination, if this proved necessary.

Failure to provide for truck and inland waterway shipments in the original regulations again instances an apparent impression that the problem was wholly one of equalizing pine carried by the railroads. True, the volume of shipments by these other transportation media had not been large (excluding truck hauling for short distance) before the code. The effect was to stimulate the trucking of pine where practicable, and this was extremely dangerous for the equalization system because the rates are not fixed as are rail rates; in fact, vary widely as between carriers.

Limiting the additions of freight required of the "upper-bracket" mills created another serious competitive maladjustment, between these and the intermediate mills, which the division found it necessary to correct by removing the limits and requiring addition of whatever amount was necessary for equalization.

Intradivisional equalization presented almost insurmountable difficulties; there was an absence of criteria by which to decide what mills or groups of mills should be equalized in what markets. Local monopoly, such as might have resulted at certain points if actual freight charges were added, was to be avoided. Markets within the producing states were important to pine mills, and any method which excluded mills from markets in which they had previously shared would inevitably provoke much dissension. The ten cents per cwt. minimum freight rate established, with absorption (to equalize with this rate) permitted mills shipping to any destination at rates up to fifteen cents, probably was broad enough to avoid injurying anyone seriously. A standard regulation, it obviously was not ideally adapted to differing local situations. The minimum rate was possible not a little higher

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(*) Again, on the principle of the division of markets to maintain the pre-code status quo.

than a survey (*) would have shown the average transportation cost of southern pine consumed within the producing states to be; on the other hand it is possible that this average was offset by an average yield on shipments beyond the division less than weighted average cost protection prices, or, in other words, by an excess of total absorptions over total additions on such shipments. The solution of the intradivisional problem scientifically was impossible without complete data as to consumption and sources of supply for each local trade area, and without data showing to what extent a balance between freight paid the carriers and freight included in delivered price had been received under whatever plan was established.

Compliance with the cost protection prices (f.o.b.mill and delivered)in this division is said by executives of the code administrative agency to have been fairly well maintained early in the code period and to have begun to weaken in the summer of 1934 (from June to August); non-compliance was general for some time prior to suspension. No more precise information as to the extent of price compliance at various times is obtainable. The division's enforcement activity was efficient. Weekly reports (**) were required of all members (under Article IV of the Code); these showed, for every order, the delivered price and destination of shipment. They were checked by the cost protection department and discrepancies (or violations) called to the attention of the offending mill; an adjustment of the low

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(*) Since no such survey is known to have been made, it appears that this will never be known.
The Southern Pine Division attempted, in June of 1934, to determine whether the equalization system established had resulted in an approximate balance of freight charges paid the carriers and freight included in delivered prices, for the division as a whole. To this end it distributed to all members copies of a form which is reproduced as Exhibit-D at the end of this Chapter.
This was enclosed in Bulletin No. 37 (Volume I) of the Southern Pine Division, dated May 31, 1934 (In NRA files, Lumber and Timber Products Industries, Code History, Exhibit-K-33) Apparently the number of returns received or the character of the data supplied was such as to prevent their compilation and use. The period for which the data was requested, the three months ending March 31, 1934, was probably unsatisfactory, because delivered price equalization for the Division as a whole was not effective until March 13, 1934. Although other similar surveys were attempted by divisions of the industry, we have no knowledge of the successful completion of any one, on a scale representative of the divisional membership as a whole. Many mills kept records inadequate even for the reporting of this information.

(**) These included copies of each order booked, serially numbered.

price by payment of the balance was then required (*). In addition members of the division's large field staff checked invoice copies at every mill inspected.

There were two factors in this division which chiefly contributed to non-compliance. First, was the extremely large number of small mills, irresponsibly and inefficiently operated, habitual price-cutters, without knowledge of their costs of production. Enforcement of prices or pricing regulations in the case of these mills (many of them portable) proved impracticable. Second was the activity of the wholesaler, who was beyond the jurisdiction of the code and might buy at the mill and fail to observe the regulations for the addition or absorption of freight, with the result that wholesalers often quoted lower delivered prices at the market than members of the industry.

The three principal objectives of the division's equalization system were stated (**) by the Traffic Manager of the Southern Pine Association to have been:

1. To secure each mill's normal share in its normal markets, preserving the status quo with respect to division of markets.

2. To prevent "dumping" and the sacrifice of cost protection prices.

3. To take no overall profit on freight.

The system as perfected by the division and as it was after the effective date of Lumber Code Authority Bulletin No. 8 of Volume II, in July, 1934, was, with the exception of the partial (60%) equalization of water shipments coastwise, complete. This was a primary consideration, but the real test of the soundness of any set of regulations from the point of view of the code was the attaining of a balance between the freight charges of the carriers and freight included in delivered prices. To what extent this balance was secured cannot be known; but the basing points appear to have been reasonably central in location (taking into account volume of production from the various areas); it is, as a matter of pure conjecture, unlikely that either absorptions or additions greatly exceeded one another.

(*) The division reports checking 922,407,700 board feet for price violations from December, 1933, to March, 1934. 90% of all violations during this period were said to be unintentional, and were corrected by the mills.
Cf. p. 13, Code Bulletin of the Southern Pine Division, Volumne I, No. 38, June 16, 1934 (In NRA files, Lumber and Timber Products Industries, Code History, Exhibit K-33)

(**) In the course of conversation with the writer of the Chapter.

Economic considerations might dictate that the system be judged on the basis of its success in reducing crosshauling. The limitations on absorption of freight may have had this in view; but they were necessarily largely ineffective in accomplishing any reduction because they were so liberally fixed. This does not, however, reflect upon the soundness of the system or its administration, because the circumstances were such as to make any reform of this character (any readjustment of markets and sources of supply) impracticable.

2. The Maple, Beech and Birch Flooring Division

This division embraced manufacturers of maple, beech and birch flooring throughout the United States. (*)

Hardwood flooring is fabricated from these three species by 56 companies operating 58 mills in Michigan, Wisconsin, Illinois, Ohio, New York, Pennsylvania, Vermont, New Hampshire, West Virginia, Virginia, Tennessee, Georgia, Arkansas and Louisiana. Flooring made fom hard maple constitutes an overwhelming proportion of the total produced from the species by these firms; the beech and birch varieties together approximate 1% of the total. (**)

Maple flooring competes directly with oak flooring for use in the construction of many types in buildings. Of the total hardwood flooring used in the United States, in recent years, the volume of maple, beech and birch has fluctuated between 20 and 35%, of oak flooring between 80 and 65%. Maple flooring is widely preferred for use in schools, halls, and other public buildings, partly because of its durability; the residential field is, on the other hand, dominated by oak flooring; there is a highly competitive middle ground in the construction of small public buildings, shops and office buildings.

Each of these types competes indirectly with flooring made from softwoods, such as edge-grained hart yellow pine; this competition is so vigorous in certain areas that the hardwood floorings have been unable to secure any considerable volume, particularly in the south and southeast; laminated fir flooring also offers keen competition in certain markets.

Production of maple, beech and birch flooring is confined to a relatively restricted area because the natural resource is concentrated in a few states. 75 to 85% of the total production is accounted for by 14 mills in Michigan, ten in Wisconsin and one in northern Illinois(at Chicago); in these two states are located the most extensive and commercially valuable stands of maple timber. The freight cost of transporting the raw material makes it desirable to locate the flooring mills near the sources of supply.

A lower grade flooring, marketed chiefly in the eastern states, is

(*) Cf. Schedule A, Section 35, of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p.143.

(**) According to E. C. Singler, Secretary, Maple Flooring Manufacturers Association.

produced by four New England mills (in New Hampshire and Vermont), their combined output about 2% of the industry total. Mills in the Appalachian area, in Pennsylvania, West Virginia, Virginia, Tennessee, and New York, nineteen in all, together manufacture from 10 to 18% of all maple flooring.

A number of the southern and Appalachian mills are also producers of oak flooring, their output of the latter usually being greatly in excess of that for maple. Five mills in Louisiana, Georgia and Arkansas produce less than 1% of all maple flooring. Five mills in Ohio manufacture from 2 to 4% of the total. (*) Many of the smaller mills, in in New England and the southern states, do not produce or stock complete lines.

The annual capacity of the industry is estimated at 225 million board feet; this estimate (**) is based upon operation during 200 days of the year and a standard 40 hour one-shift working week. There are from 100 to 115 "matchers" or production units in the industry. (**)

The industry's excess production capacity is indicated by a comparison of this figure for total capacity, 225 million board feet per year, with aggregate shipments for all mills in 1934, 58,953,000 board feet, and production in the same year, 57,569,000 board feet. In 1928, 18 mills (members of the Maple Flooring Manufacturers Association) which in 1934 shipped about 20% of total industry volume reported total shipments of 89,837,000 board feet; in 1929 the same group shipped 82,572,000 board feet.

No data is available showing the degree to which the industry is integrated, but it is estimated that about 50% of maple flooring is produced by mills which own and log stumpage, supplying their own raw material needs in large part. Operators in Michigan and Wisconsin particularly own extensive timber tracts; the percentage of integration may be less in other areas. Although lower Michigan is well cut out, there are said to be large stands of maple in the northern part of the state and in Wisconsin.

Data with respect to the distribution of flooring manufactured from these three species is inadequate. However, in 1928 and 1929, 18 members of the Maple Flooring Manufacturers Association reported shipments into each state in the United States. These reports show the principal consuming states in each year to be Illinois (which took 19% of the total), Wisconsin, Michigan, New York, Minnesota, California, Massachusetts, Pennsylvania and Ohio; these nine states consumed in 1928 70.6% of the reported maple, beech and birch flooring sold; in 1929, 71.2% (***)

(*) Cf. Table 8, Appendix.

(**) According to E. C. Singler, Secretary of the Maple Flooring Manufacturers' Association.

(***) Cf. Table 9, Appendix.

The same data shows that in 1928 the 14 Southern states of Georgia, Texas, Alabama, Kentucky, Tennessee, North Carolina, South Carolina, Virginia, Arkansas, Oklahoma, Mississippi, Louisiana, West Virginia and Florida consumed only 6,749,000 board feet of maple flooring, or 7.8% of the total; in 1929 6,851,000 feet or 8.4% of total shipments. The 14 western states of Washington, Oregon, Nevada, Arizona, New Mexico, Utah, Idaho, Montana, Colorado, Wyoming, North Dakota, South Dakota, Nebraska and Kansas took 9,135,000 feet in 1928, and in 1929, 8,384,000 feet, the percentage in each case being 10.1%.

The maple, beech and birch flooring industry has one of the strongest of lumber trade associations in the Maple Flooring Manufacturers' Association. This organization has (as of December 19, 1935), 21 members, for the most part relatively large mills. Of these, 11 are in Michigan, 6 in Wisconsin, and one each in Illinois, Ohio, New York and West Virginia. Members of the Association account for 70 to 80% of total shipments; their percentage of capacity is somewhat less as there is a greater utilization of capacity - a higher operating ratio.

There is no information as to relative quantities of flooring sold through the several channels of lumber distribution. Many larger mills sell direct to contractors and retailers. Little difficulty was experienced under the code as a result of pressure from wholesalers to reduce prices; what there was of this does not appear to have been effective. Dealers play an important part in influencing the choice of one or the other types of flooring; some dealers stock only one species of flooring and substitute it extensively. Nearly all maple, beech and birch flooring is hauled by rail; none is transported by water (except export shipments) and a small quantity moves by truck on short hauls.

The inception of minimum prices under the code for the lumber and timber products industries found the maple flooring industry with an old established single basing point system at Cadillac, Michigan. For many years Cadillac was the center of maple flooring production: three large mills were located there (*) and stumpage was dense in the vicinity. These circumstances accounted for its selection as a single basing point and it continued to be used as such by members of the association until the adoption of the code, when its application became mandatory upon all mills in the industry.

The process by which Cadillac became a basing point is not clear. The Maple Flooring Association for a number of years has had approximately 20 members, nearly all of whom were (as they are now) located in the two principal producing states of Wisconsin and Michigan (**).

(*) There are still three mills at Cadillac, but their scale of operation is said to be proportionately not so large.

(**) In 1924, of 22 members, one was located in Illinois, one in New York, the others were in the great Michigan-Wisconsin region. In 1935, of 21 members, the New York and Illinois mills retained membership and there were two other outsiders, in Ohio and West Virginia.

They are typically, but not uniformly, large, efficiently managed mills. Their production costs are on the whole somewhat lower than the production costs of mills in other localities, as in New England.

Maple flooring for many years has been quoted and sold at delivered prices, for reasons given a general discussion elsewhere in this report. It is enough to say here that purchasers are interested in the final cost of the product delivered at destination rather than in its price at the mill, because of the relative importance of freight charges; delivered prices facilitate comparison of the final cost of flooring shipped from variously located mills, a comparison which would otherwise very often be difficult for buyers lacking adequate traffic departments. And the maintenance of f.o.b. mill prices uniform for all buyers, with freight paid by the buyer, is impracticable in this industry, for reasons which also were discussed in another part of this report, apart from considerations of convenience.

The Maple Flooring Manufacturers Association collects each week from its members data showing for every transaction completed during the week, the species, quantity, size, grade, delivered price and average freight rate to destination. The average freight rate reported is the weighted average freight rate on all shipments by the mill, of each grade and size, to all destinations. From this data the Association is able to calculate, for each size and grade, the weighted average of all delivered prices and the average freight cost of all shipments; then, by deducting the second from the first, the average price obtained by all mills f.o.b. mill (the average net yield) is secured (for each size and grade.) These average prices realized by member mills on an f.o.b. mill basis are reported to the members and published by the association each week. It also reports averages of delivered prices, averages of average freight rates and average costs of freight, as well as total sales, for each size and grade.

The Maple Flooring Manufacturers Association also compiles and distributes to members and non-members alike a rate book which gives the carload freight rates on maple flooring from Cadillac, Michigan, to destinations throughout the United States. The rates from Cadillac are designated as average freight rates from Michigan and Wisconsin shipping points to representative markets throughout the United States.

Any flooring operator is able, by referring to these weekly price average f.o.b. mill and by consulting the schedule of Cadillac freight rates, to determine approximately what delivered price must be quoted to meet the prevailing price at any destination. This price will ordinarily be the sum of the average price f.o.b. mill (or average realization) reported by the association and the rail freight from Cadillac.

Members of the Maple Flooring Manufacturers Association ordinarily are guided by the reported price data and adhere to the Cadillac basing point on shipments to all destinations. Since these mills supply 70% or more of total maple flooring their use of the price data and adherence to the Cadillac base means that usually, at nearly all destinations, the

delivered price so calculated will be the market price. Non-members in general are understood not actually to use the Cadillac basing point in determining their delivered prices, but to follow and stay within, ordinarily, the delivered prices quoted by the member companies on this basis. (*)

Maintenance of the Cadillac basing point and the resulting high degree of price stability in the industry is possible not only because members of the association account for so large a proportion of total maple flooring production; other important factors are the concentration of the supply of the raw material, maple stumpage, over a small area, and the concentration of producers in this area, so that there is no great disparity of rates from the various origin points. (**)

In this sense there had been a single basing point system in the maple flooring industry for many years before the institution of cost protection prices under Article IX of the Code. These minimum prices presented the division with the same problem of delivered price equalization which confronted nearly every branch of the lumber industry under the code. The Maple Flooring Manufacturers Association became administrative agency for the Code Authority in the division. Minimum prices were proposed to the Authority and approved, effective November 7, 1933, (published in Bulletin No. 4 of Volume I), the first day upon which prices became effective in any division of the industry. The maple flooring prices were

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(*). In a declining market, non-member mills often quote prices less than the Cadillac prices, particularly at destinations to which they enjoy a relatively low freight rate. In such a market even member mills disregard the price reports, fail to adhere to the basing point.

(**) The single basing point system of the maple flooring industry was brought before the federal courts under the anti-trust laws and was sustained by a decision of the United States Supreme Court in 1924 holding that the Association had only effected a combination to gather and disseminate useful data with respect to sales, shipments, stocks, production, prices and freight rates from Cadillac, "without any attempted agreement for concerted action with respect to prices or production or restraining competition." The opinion further stated that there was "undisputed evidence that prices of dependent's products were fair and reasonable, usually lower than the prices of non-members"; also, that the evidence showed it to have been the usual practice in the trade to quote delivered prices, that purchasers will not buy on any other basis usually, and that average freight rates from principal producing points (in Michigan and Wisconsin) to principal centers of production are approximately the same as rates from Cadillac. The freight rate book was declared to serve a useful purpose in enabling members to quote promptly delivered prices. (Cf. Supreme Court of the United States, No. 342, October Term, 1924, Maple Flooring Manufacturers' Association, et al, appellants, vs. the United States of America.)

f.o.b. mill minima but the accompanying rules and regulations required sale at delivered prices not less than the f.o.b. mill prices plus rail freight from Cadillac, Michigan to destination. In this way, the single basing point upon which more than 70% of maple flooring had been sold prior to the code was recognized and mandatory for all mills wherever located. New England, Appalachian and southern mills, non-members of the Association and (except where convenient) non-users, of the basing point now found themselves forced to add or absorb freight to equalize with the Cadillac rate. All maple flooring shipped, whatever its origin, whatever its destination, was to be quoted at Cadillac freight rates.

The establishment of minimum delivered prices based upon freight from a single basing point at Cadillac met with opposition almost from the outset. The January (1934) hearing called by NRA to consider the operation of the lumber code and receive complaints against it was the occasion for an attack by a representative of the Consumers' Advisory Board. Worth E. Shoults, the Board's lumber specialist, on January 10, presented a lengthy criticism of delivered price equalization and the mandatory use of basing points in a number of divisions of the industry under the code; in the course of this he cited the maple flooring system whereby all producers "pretend" location in Cadillac, Mich., and offered data tending to show that average freight charged by the mills exceeded average freight paid to the carriers on shipments to three important markets, Chicago, St. Paul and Minneapolis. (*) The Lumber Code Authority and the Maple Flooring Division apparently were prepared for this criticism. On January 12, 1934, the charges were answered by the Authority's Executive Officer, C. A. Bruce, who was able to present data compiled by the division tending to show that the total cost of freight and other delivery charges actually incurred on maple flooring products in December, 1933, varied from total freight included in the delivered selling prices (using the Cadillac base) by one per cent only (**). This computation of freight figures reported by 13 mills showed a composite net profit in freight cost upon December, 1933, shipments of only $179.72, of a total cost of freight included in delivered prices amounting to $17,421.90. Shipments of these 13 mills were said to constitute 70% of the industry total for the month.

(*) Cf. Transcript of Code Hearing, Lumber and Timber Products Industries, National Recovery Administration, January 10, 1934, pp. 309-331.

(**) Cf. Transcript of Code Hearing, Lumber and Timber Products Industries, National Recovery Administration, January 12, 1934, pp. 618-663.

Both statistical presentations, that of the Consumers' Advisory Board and that of the Authority, were based upon inadequate data and were inconclusive. The Board had not made its own investigation and the data it used was not representative as to sources or markets; the Maple Flooring Division had collected its data hastily (in response to a Lumber Code Authority request of December 29, 1933) between January 2, and January 8, 1934, and the data it used was not shown to be representative as to producers with respect to location.

On January 28, a conference was held in the office of NRA's Deputy Administrator for the Lumber Code, L. A. Selfridge, between the Deputy, Secretary E. C. Singler of the Maple Flooring Division, Shoults, and W. L. Yost and Peter Stone of the Research and Planning Division. This resulted in an agreement that the single Cadillac basing point system be modified: that it be continued in use for shipments from Michigan, Wisconsin and northern Illinois, but that shipments from all other points be at f.o.b. millprices plus actual cost of transportation (*). Shoults, arguing in favor of modification, termed the single basing point an "almost perfect example of the outlawed 'Pittsburgh-Plus' method". Yost stated that the modification would leave twenty-two mills controlling 84% of production on the Cadillac base; 23 smaller mills (accounting for the remaining 16%) would be free to price on an f.o.b. mill basis.

However, a bulletin (**) issued to division members on February 9, 1934, reported that weighted average costs and prices had been submitted to and approved by the Authority on February 8, 1934, the Cadillac single basing point being retained and approved "on our statement of our understanding of the procedure agreeable to the Consumers' Board." The required use of the Cadillac base by southern and eastern mills was understood to be the source of the Board's objection, but if one or more other basing points were to be adopted their location "should be based on a complete survey and with due regard to competitive markets." The survey was to cover delivery costs from all flooring mills to principal domestic consuming markets.

(*) Cf. Letter from Deputy Administrator L. A. Selfridge to the Lumber Code Authority, January 29, 1934, a memorandum from W. L. Shoults to Deputy Selfridge, dated January 29, 1934, and a letter from W. L. Yost to Deputy Selfridge, January 31, 1934 (In NRA Files for the Lumber and Timber Products Industries, "Prices-Basing Points" Folder).

(**) Cf. MFMA Bulletin 38-A, Feb. 9, 1934, (In NRA files, Lumber and Timber Products Industries Code, Code History, Exhibit K).

On February 12, the division undertook the survey, asking each mill to furnish it with carload and l.c.l. freight rates to representative destinations points selected and listed on prepared forms.

The opinion of the Lumber Code Authority was indicated by a letter from J. M. McClure, Chief of the Department of Costs and Prices, to Deputy Administrator Selfridge, dated February 19, 1934. In it he declared it to be the opinion of his department that the "use of the Cadillac basing point for the entire United States is indefensible." It was his understanding that the system was being continued temporarily, subject to revision as soon as substantiating data can be secured for the establishment of additional basing points". (*)

While, apparently, the Maple Flooring Division, the Authority and NRA were awaiting the results of the survey being made by the first, W. L. Yost of NRA's Research and Planning Division from time to time (January to June, 1934) requested that the Maple Flooring Division furnish data with respect to shipments, mill locations and distribution, etc., so that his department might make its own study of the problem. (**) This data was never furnished, altho each request was transmitted by the Lumber Code Authority to the Maple Flooring Division. Very probably data of the type requested was not available.

By March 9, 1934, however, the Maple Flooring Division had received freight rate data from 32 mills; incomplete in many respects, it was used by the division in averaging freight rates to 18 principal markets (***) east of the Mississippi River, from 7 southern mills and 11 Michigan and Wisconsin mills. The average rate from all 18 mills was 35.5¢ which compared with an average from Cadillac of 35.3¢; the average for the southern mills in their "logical territory" ranged from 2¢ to 3¢ lower. The average rate from Wisconsin mills to all 18 points was 38.4¢, from Michigan mills 36.7¢ and from southern mills 32.1¢. The average rate from Johnson City, Tennessee, was 33.4¢. No action was taken by the division pending collection of more complete data. (****)

(*) Cf. NRA files, Lumber and Timber Products Industries Code, "Prices - Basing Points: Maple Flooring" folder.

(**) Cf. Letters from W. L. Yost to Deputy Administrator Selfridge, on March 16, 1934, to A. C. Dixon, Deputy Administrator, on March 26, 1934, and to F. Y. Reid, Assistant Deputy Administrato on April 9, 1934 (In NRA files, Lumber and Timber Products Industries Code, "Prices-Basing Points: Maple Flooring" folder)

(***) Nothern destination points: Boston, Buffalo, Chicago, Cleveland, Detroit, Indianapolis, New York City, Philadelphia, Pittsburgh, Portland, Me., and Wilmington, Del. Southern destination points: Atalanta, Baltimore, Birmingham, Jacksonville, Richmond, Va., and Washington, D. C.

(****) Cf. Minutes of Meeting of the Maple, Beech and Birch Flooring Division, March 9, 1934, in MFMA Bulletin No. 38a, dated March 15, 1934. (In NRA files, Lumber and Timber Products Industries Code, Code History Exhibit F, Bulletins of the Maple Flooring Divisions.)

Later, however, the Executive Committee of the division decided that if an immediate solution of the problem were required, it would be well to have the Cadillac base apply upon all sales in Michigan, Wisconsin, Illinois, Indiana and Ohio, and establish a second basing point at Johnson City, Tenn., to apply to all sales in states south of the Ohio River and south of New York and the New England states, wherever the rate from Johnson City was lower than that from Cadillac. The New England states and New York were to remain on the Cadillac base pending an "equitable solution of the Canadian competition matter". (*) Shipments of mills in New York and New England during the six months past had amounted to only 2,278,000 feet or 9.3% of the total for the Division (their production was 9.8% of the total); this the Maple Flooring Manufacturers Association considered an "extremely small percentage of output for which to establish a basing point to the disadvantage of north-central and southern mills, who would be compelled to absorb the freight loss in the valuable New York-New England market without recovery of the loss in the cost protection prices established".

When this proposal was brought to the attention of the Research and Planning Division, this department reiterated its request for detailed information respecting the operation of the Cadillac base, and suggested again that producers outside of Wisconsin and Michigan be allowed to ship at minimum prices plus actual freight to destination; since production was controlled by allocation, it was not expected that this would disrupt the market. Immediate action was requested. (**)

Yost's suggestion was brought to the attention of the Maple Flooring Division. The New England mills had not reported the freight rate data asked by the division. In a letter to the Costs and Prices Department of the Authority, Secretary Singler said that only one mill was producing any significant quantity of flooring in that area, the other small units being virtually shut down. (***) Singler reported that the Executive Committee was considering permitting New England mills to sell at minimum prices plus actual freight from mill to destination.

(*) Cf. Letter from E. C. Singler, Secretary, Maple Flooring Manufacturers' Association, Chicago, to the Lumber Code Authority, Department of Costs and Prices, April 10, 1934. (In NRA files, Lumber and Timber Products Industries Code.)

(**) Cf. Memorandum from W. E. Yost, to F. Y. Reid, Assistant Deputy Administrator, April 24, 1934, (In NRA files, Lumber and Timber Products Industries Code.)

(***) Cf. Letter from E. C. Singler, Secretary, Maple Flooring Manufacturers Association, to Costs and Prices Department, Lumber Code Authority, May 3, 1934 (In NRA files, Lumber and Timber Products Industries Code.)

No action was taken immediately, however, and on May 22, Yost made known to Deputy Administrator Dixon his opinion that the modification of the single basing point system, pending since January, should be effected immediately. He repeated his previous proposal for the addition of actual freight by mills outside Michigan, Wisconsin, and Northern Illinois; this would not cause any dislocation of trade since "allocation so nearly equals demand." The Cadillac basing point he thought "not fair to consumers who are located at or near any of the southern or New England mills" (*) The Research and Planning Division (**) asked the Legal Division to draft an order so amending the basing point system. Before any action was taken in this direction, the Lumber Code Authority on June 22, in approving costs and prices proposed by the Maple Flooring Division to take effect under the revised Article IX (about to receive NRA approval on July 15, 1934), also approved amended regulations which had the effect of creating two more basing points. These regulations were published in Lumber Code Authority Bulletin No. 15 of Volume II, July 16, 1934. On and after July 20, sales of flooring for domestic consumption were to be at delivered prices:

> "which shall not be less than minimum prices f.o.b. mill plus not less than equalized freight to the point at which delivery is being made, as shown in the MFMA Rate Book."

On July 21, 1934, the Maple Flooring Manufacturers' Association published a rate book, which was the one referred to in the regulations, containing "equalized carload freight rates from Cadillac, Michigan, Johnson City, Tennessee, and Montpelier, Vermont". This book listed only the lowest rail rate in effect from any of these three points to destinations in all states east of the Mississippi River (except Wisconsin and Michigan) and in Louisiana, Texas, New Mexico, Arkansas and Oklahoma. On sales to points in all other states the Cadillac, Michigan, rate was to apply, as the lowest rate. Thus at any destination delivered price was to be the sum of the minimum price and the lowest freight rate from any of the three basing points to destination. On sales for export, delivered prices were to be figured on the Cadillac base to port of embarkation plus regular rates to destination beyond port.

The selection of the two new basing points was not based on an

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(*) Cf. Memorandum from W. E. Yost to A. C. Dixon, Deputy Administrator, May 22, 1934, (In NRA files, Lumber and Timber Products Industries Code.)

(**) An Administrative Order was, in fact, drawn in June, 1934, exempting all maple flooring manufacturers in states other than Michigan, Wisconsin and northern Illinois from the use of the Cadillac base and requiring that they sell at the minimum prices plus actual freight to point of delivery. It was never approved. (Cf. NRA files, Lumber and Timber Products Industries Code, files of the Research and Planning Division.)

adequate investigation of flooring distribution, freight rates, sources of supply. The survey undertaken by the division in February and March had admittedly failed to produce data complete enough or representative enough to be used for this purpose. But Johnson City was already in use as a basing point for oak flooring, and of the southern maple flooring mills involved no less than 24 (including 4 in Ohio) were also producers of oak flooring. (*) It was also considered (as a result of the computation already discussed) to represent a fair average freight rate for this producing area - to be, roughly, a center of production for the southern and Appalachian mills in Tennessee, Georgia, West Virginia and Virginia. There was said to be no great disparity between the Johnston City rates and the West Virginia rates.

Montpelier, at which no mill was then or is now located, was chosen likewise as representing a fair average freight rate from the three mills in Vermont and New Hampshire.

These reasons are purely as reported by persons familiar with the administration of the code in this division and cannot be documented.

It is probable that a paramount consideration in the selection of each point was that the average of freight rates to principal eastern and middle-western consuming states be as little as possible less than the Cadillac average, so that flooring from Michigan, Wisconsin and Illinois, 84% of the total, might not have to move to those markets, at rates which would involve heavy absorption of freight.

At any rate, the establishment of the two additional basing points came so late in the code period that there was not sufficient time to afford a test of their soundness. Very little information as to the effect of their establishment is available. On the whole it is probable that Wisconsin and Michigan mills did increase freight absorptions materially, and suffered reduced net yields on shipments to certain markets, some of them important, as New York and New Jersey, others relatively unimportant, as the southeastern states, henceforth on the Johnson City rate. This conclusion is not based on any data, and is dependent in its accuracy upon the extent to which price compliance (and compliance with pricing regulations) was observed. In this division, it is said to have been very good (except on the part of some of the very small operators) even up to the suspension of cost protection prices; and since suspension (on December 22, 1934) maple flooring prices have also been maintained at or near code levels.

(*) In addition, 4 maple flooring mills in Wisconsin and one in Chicago were also producers of oak flooring.

With suspension, however, came the abandonment of the code-created basing points at Johnson City, Tennessee, and Montpelier, Vermont. Both had been established at the instance of the Administration; both were highly artificial and could not have been expected to survive the collapse of the artificial structure of cost protection prices of which they were a part. There was a reversion to the single basing point at Cadillac by members of the MFMA, most of whom, as before, were in Michigan and Wisconsin. Maple flooring sold by these mills at the present time is quoted at delivered prices in the formation of which the freight rate from Cadillac is used. The Association continued to report price (and other) data weekly and to issue schedules of freight rates from Cadillac; this, as before, assists member mills in the formation of prices composite of the prevailing average price (or realization) f.o.b. mill and the rail freight from the basing point. Many non-member mills, particularly those outside the Michigan-Wisconsin area, have reverted to irregular delivered pricing, meeting the Cadillac price where expedient, cutting it occasionally where expedient. These mills use no basing points. In short, there has been a complete reversion to pre-code practice.

3. Oak Flooring Division

This division included producers, manufacturers and distributors of all standard items of oak flooring, wherever located, throughout the United States. (*)

Oak flooring is fabricated largely by mills located at or nearby the chief sources of supply of the hardwood raw material. (**) Chief producing states are, accordingly, Tennessee, Arkansas, Louisiana, Virginia, West Virginia, Texas and Missouri. Plants in Pennsylvania, Ohio, eastern Kentucky, Mississippi, Alabama and Florida account for much smaller proportions of the total supply.

The product manufactured, in a large number of grades, sizes and specifications, is sold nationally, being shipped into every one of the forty-eight states (the percentage into each state is shown in Table 10), but its chief markets are in the states of the east and middle west. Consumption is least in the south and southeast, where softwood flooring manufactured from southern pine is less expensive and in greater demand, and in the Rocky Mountain States and the far west, where high rail freight rates result in high delivered prices which discourage consumption. (***)

Flooring manufactured from oak competes directly with flooring fabricated from another hardwood species, maple. Of the total consumption of hardwood flooring the former takes 66 2/3 to 75%, the latter 33 1/3 to 25%. These relative volumes did not change appreciably during the code period. Maple flooring dominates the public building field of the construction market and is preferred for use in school houses, halls and similar buildings. Oak flooring dominates much of the field of residential building.

Hardwood flooring of both species has been unable to compete successfully against the cheaper softwood flooring in a few markets, notably the southeast, but where the use of the hardwood type is established, as in the north and east, there is relatively little tendency to substitute softwood products except in a severe general depression.

In recent years the oak flooring industry, in common with other branches of the lumber industry, has suffered from a considerable excess of productive capacity. In 1935, total capacity was estimated by the National Oak Flooring Manufacturer's Association at a billion board feet per year; this compared with annual consumption approximating 200 million board feet. The estimate of annual capacity probably is too high since it is based upon fifty weeks of production and one working shift of sixty hours per week, but no other, more reliable estimate is available. There is, undoubtedly, a

(*) Cf. Schedule A, Section 33, of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, page 143.

(**) Twenty years ago, the bulk of oak flooring was produced in the north, production centering around Chicago and Detroit.

(***) Cf. Table 10, Appendix

serious excess of capacity over normal demand.

There are 105 plants, operating 213½ flooring units or machines; these are scattered among the producing states mentioned as shown in Table 11. No data is available as to the extent of integration, but persons of wide experience in the industry estimate that 60% of flooring is fabricated from purchased hardwoods lumber, while 40% is logged, sawn and manufactured into flooring by mills which own their own stands of timber. The latter include both large and small operators.

A strong, long-established, trade association, the National Oak Flooring Manufacturers Association, embraces in its membership firms representing (as of Nov. 1, 1935), 70.45% of total industry capacity. These companies are of all sizes and capacities, there being no less than 24 one-unit (or machine) companies; the largest member operates four mills with a total of 23 units, accounts for 15.69% of total member capacity and 11.05% of total industry capacity. Seven other members operate 5 or more units in one to three mills. The largest non-member has five units and 2.88% of industry capacity, and of 46 non-members, 39 operate two or less machines. (*)

Oak flooring is sold direct to contractors and retailers where companies are large enought to maintain adequate selling forces, but many of the smaller mills sell through wholesalers and brokers. There is no data available as to the relative amounts sold through each channel.

Before the advent of cost protection prices under the code, oak flooring had been sold at delivered prices in domestic markets. For much of the flooring shipped these prices represented whatever the sellers thought necessary or were able to quote to secure business at a particular destination. In respect of this practice the pricing of oak flooring did not differe from the pricing of nearly all other lumber products.

However, for some years, the formation of delivered prices on the part of mills shipping as members of the National Oak Flooring Manufacturers Association had been influenced by the price reporting activity of the Association which tended to set up Memphis, Tennessee, as a basing point for the sale of oak flooring. The process was as follows: member mills (**) reported currently to the Association the delivered price at which each shipment of flooring was sold. This was done by forwarding to the Association a duplicate of each order, on which appeared the delivered price, the item and size, etc., the amount, and the destination. The name of the customer ordinarily was deleted from the copy, likewise, occasionally, the destination (***), but where the destination was not shown, the seller inserted the freight rate at which the shipment would have moved from Memphis, the basing point, to destination. Once each week the

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(*) Cf. Table 11, Appendix.

(**) Not every transaction by every member mill was reported, but R. E. Hill, Secretary of the National Oak Flooring Manufacturers Association, estimates that copies of all orders were sent in by 50% or more of the industry capacity.

(***) This was done wherever it was considered that the location would disclose the identity of the buyer, to the business detriment of the seller.

Association reported to the industry the state of the flooring market as evidenced by the prices received by members on transactions during the week past. The data reported included, for each size and grade, the total (in thousands of board feet) and the weighted average price obtained upon all transactions in each item, grade and size during the current week. These prices were all shown f.o.b. Memphis; the f.o.b. Memphis price was obtained, for each transaction, by deducting from the delivered price shown, freight charges at established rail rates from Memphis to the destination on the order copy; where the destination was deleted the charges from Memphis to destination a calculated by the shipper were subtracted.

This reporting of the weighted average of prices upon current transactions, calculated f.o.b. Memphis, made it possible under ordinary circumstances for the member mills receiving the data to know (or to check knowledge received from other sources, as salesman and brokers) approximately what delivered prices they must quote in order to secure business in any domestic market. This they found by adding to average price reported rail freight rates from Memphis to destination. Depending upon the nature of the particular transaction or what he considered to be the trend of the market an operator might feel it necessary to base his delivered quotation somewhat below the average or, conversely, feel able to quote a composite of Memphis freight charges and an amount above the average. (*) Moreover, there was nothing to assure the use of the reported prices by each mill; many of them might disregard the data entirely.

Memphis was chosen as the base, as might be expected, not as a result of market research by the association, but because it had long been a center of oak flooring as well as hardwood production; there, also, were the offices of the Natural Oak Flooring Manufacturers Association, and the Hardwood Manufacturers Institute. (**)

(*) This would ordinarily be the case where a mill was able to secure a premium price because of the superior quality of flooring.

(**) Ralph E. Hill, Secretary of the National Oak Flooring Manufacturers Association, and the head of the Oak Flooring Division, said at the Lumber Code hearing in January, 1934, that the Memphis basing point had been used "in the interest of stability. It makes for competitive equality in the consuming market and avoids endless confusion in prices." Again, "whether or not there are basing points, freight absorption remains a fact; no plant can find a market for its entire production in a single territory."
Cf. Transcript of Code Hearing, Lumber and Timber Products Industries, January 13, 1934, pp. 901-2 (In NRA files, Lumber and Timber Products Industries.)

In this restricted sense Memphis functioned as a basing point in the pre-code period. There is no evidence at hand to indicate that any attempt was made, by the National Oak Flooring Manufacturers' Association or any group within the industry, to force the use of Memphis as a basing point upon producers of flooring within or without the association.

The nature of the price-reporting process was such as to make it clearly impossible to determine to what extent the Memphis rate was used by member firms in quoting delivered prices, but Ralph E. Hill, for many years manager of the N.O.F.M.A., estimates that before the code 45 to 60% of all oak flooring was sold at prices in the formation of which the reported prices and Memphis rates were used. Other estimates by persons outside the industry, range from 30 to 50%.

In selling to eastern territory particularly (i.e. states in Eastern Trunk Line and New England Freight Association Territory) it was frequently impracticable to attempt to use the Memphis base because the market was supplied largely by mills in the eastern producing area, in Virginia, West Virginia, Pennsylvania, eastern Tennessee, and eastern Kentucky, shipping at lower freight rates to destinations in those states. Memphis thus proved an impracticable basing point for eastern markets for the simple, logical reason that a freightwise nearer, more economically located producing area was able to supply eastern demand at lower cost, i. e., at delivered prices less than the Memphis base plus freight from that city.

Consequently mills used the Memphis basing point only when convenient or expedient to do so, and it does not appear that any mill used it, when to do so seemed likely to result in the loss of a sale. The chief adherents to the Memphis base were, as might be expected, operators located in the producing area about Memphis, in west Tennessee, Arkansas, northern Louisiana, Missouri, Mississippi. Five large mills, members of the Association, in Memphis or nearby, are said to have used the base with a high degree of consistency.

All mills quoted delivered prices, on all transactions. All mills met current delivered prices in any market (if they desired or found it necessary to do so), regardless of the basing point.

The prices reported by the Association were least regarded by members of the industry in the formation of prices when sales and shipments of oak flooring were declining. With orders falling off, departures from the use of the Memphis base were frequent; under such circumstances, with pressure to cut prices to secure business, the weighted average price upon last week's transactions was of little significance to the seller. He was interested only in meeting or cutting the current delivered price, whatever the amount of freight absorption or the reduced net yield involved.

With the approval of the code for the Lumber and Timber Products Industries oak flooring producers were brought together as the Oak Flooring Division, with the National Oak Flooring Manufacturers' Association as administrative agency for the Lumber Code Authority. Not quite three months later cost protection prices were established in the division, effective November 7, 1933; this was the first day on which prices were effective in any division. The prices published in Lumber Code Authority Bulletin No. 4 (Volume I) were f.o.b. mill minima, but freight equalization was provided

for by requiring their application as delivered prices in domestic markets with the addition of freight from Johnson City, Tennessee; Memphis, Tennessee; or Alexandria, Louisiana, to destination, "whichever lowest". No significant changes in these regulations were effected by subsequent bulletins (in Vol. I and Vol. II), published by the Authority in 1933 or 1934. The industry retained its triple basing point system throughout the life of cost protection prices and has made a partially successful effort to carry it over into the post-code period.

The first thing to note about the system as established under the code is that it was founded upon three basing points. The industry had profited from its experience with the single Memphis base, and was attempting to set up a basing point at each of three centers of production, serving important consuming areas. Thus Johnson City, in northeastern-most Tennessee, was expected to serve for shipments to eastern markets. Alexandria, Louisiana, was to function as basing point for shipments to Texas and the southwest, and Memphis, as before, was adapted for shipments to the midwest and the west.

How satisfactorily the three basing points operated is not definitely known. Only one test of their effect upon operators' net yields was undertaken, this for the very early period between November 7 and December 30, 1933, by the administrative agency of the Oak Flooring Division. The survey showed that on 3,696,000 feet of oak flooring sold in this period "it cost the producer 48¢ per M feet to use the basing points". In other words the application of these three basing points during this period resulted in net yields to all operators, wherever located, averaging 48¢ per M feet less than the minimum prices. (*) A fifteen page exhibit in which the data of this test was contained was filed with Deputy Administrator E. A. Selfridge but cannot now be found. No check of the accuracy of the survey by the National Recovery Administration appears to have been made. (**)

(*) Cf. Testimony of R. E. Hill, representing the Oak Flooring Division, in Transcript of Code Hearing, Lumber and Timber Products Industries, National Recovery Administration, January 13, 1934, pp. 901-2. (In NRA files, Lumber and Timber Products Industries.)

(**) This testimony was presented by the Lumber Code Authority in rebuttal of complaints filed by several oak flooring operators previously, during the same hearing. The complaining mills were located at Scottdale, Penna., and Harriman and Johnson City, Tenn. They alleged general violation of the anti-trust laws and the code by the Lumber Code Authority, in requiring sale at delivered prices calculated on basing points, and they protested the addition of non-existent, excessive, freight charges by non-basing point mills. One mill protested delivered price equalization as unfair in removing a freight rate advantage which, it alleged, it had previously enjoyed. Further, the price structure for the raw material (oak), as established by the Southern and Appalachian Subdivision of the Hardwood Division was said to discriminate against the northern florring mills (in Ohio and Pennsylvania) to the extent of about $13.00 per M ft. of the class of lumber used.

No data accurately evidencing the extent of compliance with the cost protection prices and the rules and regulations for their application in this division is available. R. E. Hill, Secretary of the Oak Flooring Manufacturers Association estimated that 95% of the industry in terms of flooring shipped was in compliance from November, 1933, to October 1, 1934. Between the latter date and suspension violations became more frequent.

At one time during the code period it was proposed to add two new basing points, one at Rainelle, West Virginia, in a production district, the other at Cincinnati. The application of either would have had the effect of reducing the net income of the industry; this was particularly true of Cincinnati: nearly all mills shipping beyond or north, northeast and northwest of that city and through it would be including in delivered prices less than actual freight charges; nearly all mills would be absorbing on such shipments, very few adding freight. This proposal, which came from within the division, was never adopted.

It is interesting to note that there is one company operating three plants at San Francisco. Under the code this plant was required to add freight from Memphis as a basing point, in selling to West Coast points. The company is forced, however, to haul its oak lumber at heavy transportation cost to San Francisco (by rail and water). This tended to offset the lower freight charges on the finished product. The company accounts for about 1½% of total industry capacity. Since California alone accounts for more than 10% of total domestic oak flooring consumption, its three mills are able to supply only a small part of demand for the production in the far west and price is determined by the base prices and cost of transportation of flooring shipped from the east.

Transportation of oak flooring by truck, notably from the Memphis area to Chicago and from the Johnson City area to New York and other eastern markets is said to have increased considerably during the code period. The regulations initially adopted applied only to rail shipments; this made it possible to ship by truck and compute delivered prices to include actual trucking rates, relatively low, unstable, impossible to check. A clause was then inserted in the regulations remedying the oversight and requiring equalization on truck shipments at rail rates from the basing points, but this does not appear to have caused truck shipments to decline. No data is available as to amounts shipped by the several modes of transportation. No flooring is known to be shipped by water.

The wholesaler was not, according to informed persons in the industry, an important factor in forcing departures from code prices or regulations or in bringing about abandonment of basing points, possibly because the amount of oak flooring distributed through wholesalers is not a sufficiently large proportion of the total.

The price structure in effect for the raw material, oak produced in the Southern and Appalachian Hardwood Subdivision, adversely affected flooring mills located north and east of Johnson City (as indicated in the testimony given at the January hearings). Normally, and before the code, these operators were able to buy from nearby oak mills at prices which compared favorably with prices paid by operators farther south. However, the mill group point adjustment in effect for southern and Appalachian hardwoods

under the code fixed base prices which increased as the northern consuming centers were approached. This adjustment will be discussed at some length elsewhere in this chapter. (*)

Following the suspension of cost protection prices on December 22, 1934, the National Oak Flooring Manufacturers Association (at that time and until May 27, 1935, code administrative agency for the Oak Flooring Division) has attempted to maintain the triple basing points, at Memphis, Johnson City and Alexandria.

This was to be accomplished by a reversion to the pre-code price reporting activity, with these significant changes; first, the prices shown are to be used f.o.b. the applicable basing point; second, in addition to a weighted average price for each size and grade there is shown the week's high and low prices upon the particular size and grade and the amounts (in thousands of board feet) sold at each price. Prices are reported by the member mills as before, on order copies; the association calculates the f.o.b. mill price by deducting rail freight from the basing point nearest each destination, then averages all f.o.b. mill prices (on each size and grade) whatever the basing point. With this data it is possible for members to base delivered prices at any destination upon the reported price (or some price higher or lower) plus freight from the nearest (freightwise) basing point. The range between the high and low prices reported serves to further implement their business judgment in determining the delivered prices which they must meet, and at the same time it provides leeway in the selection of a price

No pressure is known to be exerted to induce mills to use the basing points, in the post code era. It has become, as before, a matter of expediency, with (it appears) mills rarely, if ever, sacrificing a prospective sale in order to maintain the basing point prices. It has not been possible in this study to determine the degree to which this method of price reporting influences price formation. (**)

The reduction of crosshauling in the oak flooring industry will always present unusual difficulties. This is because established consumer buying habits and customary local uses strictly limit the extent to which a producer can successfully cultivate adjacent markets at low freight rates. These local buying habits and uses are so strong that in many cities, metropolitan markets and trade areas, one or a few grades and sizes of flooring are demanded almost exclusively. The manufacturer, on the other hand, must, economically, produce nearly all types, grades and sizes. He must, therefore, seek extended rather than local or nearby markets for his products. Whether this type of transshipment would come within the definition of crosshauling is questionable, but it definitely adds to the transportation costs of flooring and to the cost to the consumer, and decreases net income for the mills. It is to be noted that the entrenched consumer buying habits are habits of the flooring

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(*) Cf. Part III, Section B, 1, Appalachian and Southern Hardwood Subdivision.

(**) R. E. Hill, Secretary of the NOFMA, thinks that the same percentage of total shipments would hold true as formerly, viz. 45 to 65%, sold at delivered prices calculated at freight from the basing points.

buyers, the contractors and retailers, and not, usually, of the ultimate users or consumers - the houseowners.

Minimum prices upon cedar closet lining products of the Oak Flooring Division were established effective July 16, 1934. Sale was required to be at delivered prices not less than the f.o.b. mill minima plus rail freight to destination from Johnson City or Memphis, Tennessee, as basing points. The basing point freightwise nearer destination on each transaction was to be used in figuring freight to be added to the established minimum price. Domestic water and truck shipments were to be at delivered prices computed in the same way, from the same basing points and at rail freight rates.

Three companies produce the bulk of the cedar closet lining products of the division, two of which operate mills at Memphis. One is located in Stevenson, Alabama; for the latter the Johnson City base was instituted. There was, thus, no necessity for an Alexandria basing point for these products.

Whether these two basing points are being maintained in the post-code period is unknown.

4. Western Pine Division.

All producers and manufacturers of lumber products of western pine (Ponderosa, California white pine, sugar pine, Idaho white pine) and intermingled species such as white fir, Englemann spruce, larch, Douglas fir, red cedar and incense cedar, in the states of Arizona, California (except the nine counties of the Redwood Division), Colorado, Idaho, Nevada, Montana, New Mexico, South Dakota, Utah, Wyoming, Washington and Oregon (except counties in the West Coast Division) and ElPaso County, Texas, were included. The products of the division were listed as logs, poles and piling, sawn lumber and other sawn wood products of sawmills, and lath. (*) There were about 1740 operators in the division and 1905 mills.

As has been previously stated in Part I of this chapter, western pine is the third ranking softwood species in the United States in volume of production, exceeded only by Douglas fir and southern pine. Ponderosa pine is the principal product of the industry.

In 1912, western pine mills in the Inland Empire Region of Washington, Oregon and Idaho began the reporting of delivered prices and destinations of shipment to their trade association. Several years later price reporting was begun by mills in California under the auspices of another association. Later the two associations were merged into the present Western Pine Association which continued the price reporting on a scale embracing the entire industry. Order copies were sent the association by its members.

The delivered prices on transactions recently completed were adjusted to an f.o.b. Spokane, Washington, basis (by deduction of the freight rate from that point to destination), averaged (with weighting) and reported back to members of the association, who were thereby assisted in the quoting of delivered prices; the approximate delivered price in any market tended to be the reported average price f.o.b. Spokane plus freight from that point to destination. In this sense Spokane functioned as a basing point for some years prior to the code.

At the inception of cost protection prices and with the publication of the division's first price bulletin, No. 18 of Volume I (effective November 16, 1933) sale was required to be (in domestic markets) on a delivered basis, as follows: from mills in Oregon, California, Nevada, Washington, Idaho and Montana (the principal western pine producing states), at f.o.b. mill minimum prices plus freight from Spokane or Klamath Falls, Oregon, whichever lower, to destination, if the destination point had a local rate from Portland, Oregon, or San Francisco (whichever lower) on lumber of not less than 52% per cnt. Wherever this rate was less than 52% the delivered price (save in Arizona and New Mexico) was to be based on the rate from origin to destination, with, however, absorption permitted up to 8% per cnt. to equalize with more favorably located mills in the same division. Mills in other producing states were to sell at f.o.b. mill prices plus lawful freight from origin to destination.

(*) Cf. Schedule A, Section 19 of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition Vol. I, p. 139.

Combined rail and water shipments were to be at delivered prices not less than the established f.o.b. mill prices plus freight from Klamath Falls, Oregon, to destination at lawful rail rates and conference water rates applicable (or published combination of rail and water rates) plus all incidental delivery costs as per established schedules. On shipments via the Morgan Line, the actual rate was to apply.

Subsequent bulletins did not alter the essential principles of this system, its Spokane and Klamath Falls basing points or its intra-divisional equalization provision. Bulletin No. 33 of Volume I placed sugar pine on the Klamath Falls base only, (to destinations to which the Portland or San Francisco rate was not less than 52¢). The same bulletin put all inter-coastal shipments by rail and water combined on a C.I.F. basis (at eastern seaboard ports) only, specified the charges (*) to be included, under terms which necessitated the absorption or addition of freight in excess of or less than the rail rate (15½¢ per cwt.) from Klamath Falls to the port of Sacramento.

Effective May 14, 1934, Lumber Code Authority Bulletin No. 111 of Volume I, instituted rules governing the sale of the division's products by mills in Arizona, Colorado, New Mexico, Utah, Wyoming, South Dakota or El Paso County, Texas, at delivered prices. At destinations in or west of Texas, Oklahoma, Colorado, Wyoming, or Montana delivered prices were to be based on freight from origin to destination, with absorption permitted up to 8¢ per cwt. for the purpose of equalizing with Arizona or New Mexico mills enjoying a lower rate.

Sale at destinations not within the states listed was to be based on the Spokane or Klamath Falls rate, whichever lower, except that where the rate from the mill was less than either of these rates it might be applied, up to 10¢ per cwt. less than the Spokane or Klamath Falls rate. Arizona and New Mexico destinations were also, under this bulletin, made subject to the rules for delivered pricing effective at points less than 52¢ freightwise from San Francisco or Portland. Combined rail and water shipments for intercoastal delivery on and after May 14, 1934, were to be priced delivered to include the minima and freight computed on the 87¢ (Spokane) rate, less $3.00 on c.i.f. sales or $2.50 on f.o.b. dock sales. No basis of sale other than c.i.f. or f.o.b. dock was allowed.

Effective July 20 (Volume II, Bulletin No. 20), sugar pine shipped by rail and water (combined) was to be computed on the 88¢ rate instead of the 87¢ Spokane rate.

A final bulletin, No. 24 of Volume II, effective July 25, 1934, brought truck, and truck and rail shipments within the scope of the provisions previously governing only rail shipments; rail rates only were to be used. Permissive absorption up to 8¢ per cwt. on intra-divisional shipments was said to include all destinations in Nevada and Colorado. These rules remained in effect until the date of Administrative Order No. 9-297 , December 22, 1934.

Since the code the price reporting activity of the Association

(*) The intercoastal steamship Conference rate of $12.00 per M.B.M. was included; incidental delivery costs were put at $1.25 per M.B.M.

is understood to have been resumed, with Spokane tending to operate as a basing point as before.

5. Cypress Division

This division embraced all producers and manufacturers of tide-water red cypress in the States of Florida, Georgia, Louisiana and South Carolina, but did not include white and yellow cypress or the small amount of red cypress produced by hardwood mills. Products included logs, poles and piling, sawn lumber, planing mill products (except those of planing mills operated in conjunction with retail lumber yards), shingles, flooring, veneers, plywood, lath and boxes and crates. (*) There were relatively few members of this division, in all about 200 miles.

There are as yet unsubstantiated reports that the red cypress industry in the south used Donner, Louisiana, as a basing point on carload shipments during a period ending about 10 or 15 years ago. This basing point was employed by Louisiana producers who cooperated through a strong trade association and quoted delivered prices based upon freight from Donner, then in the center of the producing area. At about this time, however, Florida production had increased to a point which made it impossible for Louisiana producers to maintain the Donner basing point, because mills in Florida, Georgia and South Carolina were not using it, were, in fact, quoting lower delivered prices in certain important markets. Abandonment of the basing point is said to have meant reversion to the highly competitive, unsystematic delivered pricing characteristic of the lumber industry as a whole.

The establishment of minimum prices in the division under the code was accompanied by the institution of a multiple basing point system. Freight equalization was achieved through three basing or "mill group" points effective for producers in three origin groups. The first price bulletin issued for the division by the Lumber Code Authority, Volume I, No. 19, effective November 24, 1933, established minimum prices f.o.b. mill but required delivered prices on all rail shipments, these prices to be not less than f.o.b. mill prices plus lawful freight rates from one of the three points to destination. For the producing territory west of the Mississippi River, Donner, Louisiana was to be the basing point; for that east of the Mississippi River, Perry, Florida, was selected, except that mills north of the Georgia-Florida state line (in Georgia and South Carolina) were to use Waycross, Georgia as their basing point. It is important to note that the basing point for each producing territory applied on shipments from that territory to all destinations.

Water shipments coastwise were to be at delivered prices composite of f.o.b. mill prices, published water rates applicable, insurance and delivery costs (as per published schedules) and rail rates to final destination beyond discharging ports.

* Cf. Schedule A, Section 1, of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Vol. I, page 133.

Subsequent bulletins did not alter these rules for delivered pricing in any important respect, until the publication of Bulletin No. 77 of Volume I, effective May 15, 1934. This provided that, while mills should not sell at prices less than the minimum price established for the mill group or basing point applicable to them plus freight from that point to destination, "in order to meet competition in any specific market in the same species, grade and item the mill group basing point having a disadvantage in freight rate may be equalized with the mill group having the lowest rate to destination, providing that the absorption may not exceed 10¢ per 100 pounds." A second change, of less importance, grouped mills in Louisiana east of the Mississippi River with the producing territory west of the Mississippi, that is, upon the Donner base.

At this time there were approximately 110 mills which reported to the division, of which eight were in Louisiana, on the Donner base, 60 in Florida using the Perry base, and 32 in Georgia and 10 in South Carolina calculating freight from Waycross, Georgia. (*) The number of mills in Louisiana was not large but included several big operators, one said to be the largest in the cypress industry.

There were no further price bulletins or equalization regulations issued.

Notable about this division's freight equalization system is that as originally approved it did not permit mills in one origin group (as Louisiana) to use the basing point of another origin group, in shipping to destinations to which the freight rate from its own basing point was higher. Instead, each mill was to sell at delivered prices including at any destination freight from the basing point for its own producing state. This amounted to a division of markets between the three origin groups. Complete delivered price equalization was had for operators within any one group, but there was no such equalization between the three. This presumably would create differentials in prices in various markets in favor of one of the groups, decisive enough in a price market to exclude the others from competing there.

Whether or not the Division in adopting these regulations intended to force each producing area to serve the consuming territories with respect to which it was most economically located (i.e., had the lowest freight rates), as seems probable, the regulations proved impracticable and had to be changed. In authorizing equalization of the mill group point having a freight rate disadvantage with the basing point having the lowest rate to destination, the code administrative agency did not wholly abandon its policy of restricting competition in a given market to not too distant mills; absorptions to equalize with the base rates were not to exceed 10¢ per 100 lbs. This limit on absorption is unlikely to have accomplished a great deal because it seems to have been set relatively high.

Also of importance was the fact that water shipments coastwise were to include published water rates, and were not equalized with rail-shipped cypress. Because certain mills are on tidewater this form of transportation has been of some importance in the red cypress industry before the code.

(*) There were four mills at Waycross, two at Perry, none at Donner.

It is not known that any serious price maladjustments developed out of this failure to complete the equalization system. No data is available by which it might be determined to what extent a balance between freight charges and freight included in prices was secured. With the abandonment of minimum prices the three basing points appear also to have been discarded. Delivered pricing is on a pre-code basis, without the use of bases, zones or any other device.

6. Northern Hardwood Subdivision.

This subdivision of the Hardwood Division consisted of producers and manufacturers of lumber and timber products of birch, maple, ash, elm, basswood, oak, beach and "other indigenous and related (hardwood) species" in Michigan, Wisconsin and Minesota. Products included all those brought within the jurisdiction of the code by definition except poles and piling, woodwork, hardwood flooring, veneers, plywood and kiln-dried hardwood dimension. (*) In the Northern Hemlock Division and Northern Hardwood Subdivision there were about 1000 mills, the great majority being small mills.

Hardwood lumber produced by mills in these three states appears to have been sold before the code at delivered prices which were not determined by the use of basing points, zones or other devices for systematic freight equalization. They were competitive prices which, as in other branches of the industry, it was necessary for mills to meet regardless of distance of shipment. Further, these delivered prices were established not only by the competition of mills located at various points within these three states but by vigorous interspecie competition with producers of these and other hardwoods over almost the entire area east of the Mississippi River and including the states on the west bank of the river from Missouri south.

With the inception of cost protection prices under the code hardwoods originating in Wisconsin, Michigan and Minnesota were (under Lumber Code Authority Bulletin No. 8 of Volume I, effective November 25, 1933) to be sold, for rail shipment outside the subdivision, at delivered prices not less than minimum prices f.o.b. mill as set forth in the bulletin, plus published freight rates from Wausau, Wisconsin. For shipment within the subdivision delivered prices were to be not less than the f.o.b. mill prices plus published freight rates to destination, but where one producer was more favorably located with respect to a certain market than others, the more distant mills were authorized to absorb the difference in freight cost.

In succeeding bulletins published up to and including the final one issued for this subdivision (Volume II, Number 69, effective

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(*) Cf. Schedule A, Section 7 of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Vol. I, p. 136.

November 22, 1934) no important modifications of these rules for delivered pricing were introduced. A rewording of the principal provisions (in Bulletin No. 55, effective May 1, 1934) omitted the qualifying "rail" before "shipment outside the division", thus extended the scope of the provision to include all shipments, as was probably intended from the beginning. (*) "Rail was inserted before "freight rates" in places in which the phrase occurred, again a meaning probably intended from the outset.

In the same bulletin the term producer (in reference to equalization with a more favorably located producer) is qualified thus, "competing producer (as defined and published by the Administrative Agency) within the subdivision."

Thus the delivered prices of all hardwood mills in these three northern states were equalized in all markets beyond the limits of the producing area by the use of a single basing point, functioning throughout the period of cost protection prices. The Hardwood Coordinating Committee approved the establishment of the single basing point system, and was responsible for the even more important correlation of delivered prices of this and other hardwood subdivisions in the common consuming territories which constitute their most important markets. The method of effecting this correlation was based upon the adjustment of the f.o.b. mill prices rather than modification of the equalization systems.

It is not known whether or not use of the Wausau rates resulted in an average net yield for the subdivision as a whole in excess of or below weighted average cost protection prices f.o.b. mill (in other words, whether total additions exceeded total absorptions or otherwise).

Intradivisional equalization accomplished by the use of freight rates from the competing mill nearest destination and absorption of the excess actual freight by the selling mill could not fail to mean that the average net yield on such shipments was less than weighted average costs (and cost protection prices), since only absorptions were involved, no additions. This, in turn, necessitated an average net yield on shipments outside the division somewhat in excess of weighted average costs, to offset this deficiency and maintain cost protection prices on aggregate shipments. It is possible that the basing point may have been located at Wausau with this in view, but is doubtful; if so, the result was only approximated and not, as far as is known; tested by the collection of the necessary data.

7. Northern Hemlock Division

This division embraced producers and manufacturers of northern hemlock, tamarack, balsam, fir, Norway pine and white pine in Michigan,

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(*) All truck shipments are specifically required to be at rates computed on the basis of railroad rates.

Wisconsin and Minnesota (excepting producers of northern pine lumber in Minnesota). Poles and piling, woodwork, hardwood flooring, veneers, plywood and kiln-dried hardwood dimension were not under the jurisdiction of the division.(*)

Producers of hemlock and the other softwoods mentioned in these states are in many cases also producers of the hardwood species which are to be found in the same areas; they are, consequently, members of both the Northern Hemlock Division and the Northern Hardwood Subdivision. This accounts for the use of the same basing point under the code in each branch of the industry.

Prior to the code the products of these mills were sold at delivered prices, competitive with other softwood species and without, as far as is known, the use of any basing point.

Rules and regulations for the delivered pricing of hemlock produced in these three states as issued by the Lumber Code Authority in its price bulletins for the division are substantially the same as the rules in effect for the Northern Hardwood Subdivision, the territory of which included the same states. The division's original price bulletin No. 7 of Volume I, (effective November 10, 1933) established minimum prices f.o.b. mill and required sale at delivered prices based, for rail shipments outside the producing territory, upon the addition of published freight rates from Wausau, Wisconsin. Intradivisional shipments were to be at delivered prices not less than f.o.b. mill prices plus actual freight to market, with, however, absorption permitted to producers more distant from a market to enable them to equalize with the most favorably located mill. In a later Bulletin, No. 71, effective May 17, 1934, the qualifying word "rail" was omitted before "shipments" outside the subdivision, was inserted before "freight rates", where the phrase occurs in these provisions. This meaning as amended was probably intended from the outset. Railroad freight rates were to be used in computing delivery charges by truck.

Subsequent bulletins did not modify these rules for delivered pricing. With the Wausau basing point, they were in effect until the suspension of cost protection prices on December 22, 1934.

The division also provided regulations governing the sale of northern pine and Norway pine produced by members of the Northern Hemlock Division; Bulletin No. 4 of Volume II, effective July 20, 1934, established minimum prices f.o.b. mill for these products, and required sale (by members of the division) at delivered prices not less than f.o.b. mill prices plus freight from Duluth, Minnesota, to destination; except that at destinations in the upper peninsula of Michigan and in Wisconsin on and east of the Soo Line Railroad (from Ashland to Amherst Junction) and on and north of the Green Bay and Western Railroad delivered prices were to be f.o.b. mill prices plus actual freight from origin to destination, equalization being allowed with nearest competing mill in this territory.

(*) Cf. Schedule A, Section 10 of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Vol. I, p. 136.

8. Northern Pine Division.

This division included producers and manufacturers of white pine, Norway pine and miscellaneous softwood and hardwood lumber in the state of Minnesota. Of the products listed in the code definition under Article II, only millwork, hardwood flooring, veneers, plywood and kiln-dried hardwood dimension were omitted from the jurisdiction of this division.(*)

The division is not large and its products account for only a small proportion of the total volume of domestic softwoods. There are about 280 mills, but only two companies control approximately 80% of total production.(**)

Before the code these Minnesota softwoods were sold in domestic markets in competition with other softwoods, at delivered prices which, so far as is known, were not calculated with the assistance of basing points, price zones, or other devices. The price at any destination was the price which was necessary if northern pine was to be sold there taking into account the current prices on similar items manufactured from other species.

With the inception of cost protection prices, the northern white pine, Norway pine, spruce, aspen and tamarack (an later, effective January 16, 1934, jack pine and balsam) products of this division were (under Lumber Code Authority Bulletin No. 21 of Volume I, effective November 17, 1933) to be sold at delivered prices formed by the addition to minimum prices f.o.b. mill (set forth in the bulletin) of lawful freight from Duluth, Minnesota, to destinations in domestic markets. However, within the division, wherever the actual freight rate to destination was lower than the Duluth rate, delivered prices were to be not less than f.o.b. mill prices plus freight charges from Bemidji, International Falls, Virginia, Redby or Cloquet, whichever lowest; but mills were to absorb freight charges in excess of the lowest rate only up to and including 8¢ per cwt.

Subsequent bulletins did not alter these rules for delivered pricing as originally established and they continued in effect to the date of the discontinuance of minimum cost protection prices, December 22, 1934. Thus the industry under the code had a single basing point at Duluth on shipments beyond the division, and six basing points, including Duluth, for intradivisional business.

(*) Cf. Schedule A, Section II of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Vol. I, page 137.

(**) Cf. Letter from Peter Stone, Chief, Basic Materials Unit, Research and Planning Division, National Recovery Administration, to G. R. Beach Jr., Lumber Code Authority, June 1, 1934 (In NRA files, Research and Planning Division, Lumber and Timber Products Industries)

9. Redwood Division.

Redwood timber grows principally in the nine California counties of Del Norte, Humboldt, Mendocino, Sonoma, Marin, San Mateo, Santa Cruz, Contra Costa and Monterey, adjoining the sea. In these counties it is commercially produced and the constituted the territory of the Redwood Division under the code. Products are all lumber and timber products, split, sawn or refined by manufacture, except hardwood flooring, veneers, plywood and kiln-dried hardwood dimension. (*)

There were about 80 companies in the division during the code period operating approximately 225 mills. A strong trade association, the California Redwood Association, even prior to the adoption of the code had a membership representing about 90% of the industry's total volume of production.

Information available for this report is incomplete, but indicates that redwood products before the code were sold at delivered prices without the use of any system of basing points. Absorption of freight was resorted to by the operators as necessary to meet competitive prices for this and other softwood species in common markets.

With the institution of cost protection prices sale of the products of this division at delivered prices was made mandatory under rules and regulations issued in the first price bulletin, No. 28 of Volume I, effective November 23, 1933. Minimum prices f.o.b. mill were established and published in the bulletin, but it was necessary to add to these prices freight "from Humboldt Bay shipping points to destination", at established freight rates.

The rules permitted, however, certain specified "Authorized Allowances" upon some items (less than half the total items) for the purpose of enabling producers "to meet competition in selling for delivery in California, Arizona and Nevada". The method by which these allowances were calculated is not given in the bulletin, and has not been determined. They were, in effect, limitations upon the amount of freight which one producer might absorb in meeting the delivered price of another mill freightwise nearer destination. The absorption might not exceed the "Authorized Allowance".

Redwoods shipped by water coastwise were also required to be sold at delivered prices composite of the f.o.b. mill minimum prices, the established water rates from Humboldt Bay to California ports, and "delivery costs incident thereto as per established schedules." Lumber shipped intercoastal required the addition of Intercoastal Conference water rates, applicable to the price A. S. T. San Francisco Bay, certain standard delivery charges and any rail or truck backhaul costs to destination beyond port.

(*) Cf. Schedule A, Section 12, of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Vol. I, p. 137.

Douglas fir and western hemlock products of the division were to be sold in domestic markets in accordance with the applicable prices of the West Coast Logging and Lumber Division (Volume I, Bulletin No. 14), plus freight in accordance with rules applicable to sale of redwood products, except that the minimum prices f.o.b. mill were to be $1.00 per M feet less than Bulletin No. 14 prices. That part of this provision which required addition of freight "in accordance with the rules applicable to the sale of redwood" was subsequently omitted in Bulletin No. 42, effective January 16, 1934.

Subsequent bulletins introduced two significant changes in the rules as outlined above. With the publication of revised f.o.b. mill prices in Bulletin No. 112 of Volume I (effective May 23, 1934) the "Authorized Allowances" on shipments to California, Nevada and Arizona markets were discontinued, and these allowances omitted from the price lists. Secondly, on sale for delivery in these three states freight charges to be added to the f.o.b. mill prices were to be from Humboldt Bay shipping points or from Del Norte or Mendocino County water shipping points, to destination. This bulletin further established two sets of f.o.b. mill prices, one for the "Western Market" embracing California, Nevada and Arizona, the Canal Zone and our insular possessions (except the Philippines); the other for the "Eastern Market" embracing the entire United States, except the three states mentioned. The f.o.b. mill minima differed as between the two markets, on a number of items; rules and regulations for intercoastal shipping are substantially as in previous bulletins.

Later bulletins retained the rules and regulations as modified in Bulletin No. 112 of Volume I with no significant changes. These rules were in effect up to the date of Administrative Order No. 9-297, on December 22, 1934.

In summary, this division established delivered prices which at any destination point were the same for all producers. Humboldt Bay (and later Del Norte and Mendocino County) shipping points functioned essentially as basing points, and the point which had the lowest freight rate to any destination apparently set the delivered price there. In selling at this delivered price each producer absorbed or added freight according as he was freightwise more or less distant from destination than the basing point. Concentration of producers within a limited area probably kept these absorptions and additions down.

The split products of the Redwood Division were treated separately. Minimum prices were established effective March 5, 1934, as published in Lumber Code Authority Bulletin No. 76 (Volume I). Sale in domestic markets was to be at not less than minimum prices f.o.b. cars (or trucks or A.S.T. the nearest loading seaport) plus established freight rates and handling charges to destination. (*)

(*) For water shipment, rates to be added to the loading seaport prices were specified to be, ex vessel San Francisco Bay pts., $3.50 per M.B.M; Santa Cruz, Moss Landing and Monterey, $4.50 per M.B.M; Los Angeles, San Pedro, San Diego and other southern harbors, $5.50 per M.B.M. Rail shipments were to be at rail rates.

These regulations were revised in important repsects with the publication of Bulletin No. 12 (Volume II), effective July 20, 1934. Shipments outside California after this date were to be priced, delivered, to include rail freight from Eureka, California, or water freight from Humboldt Bay or Del Norte or Mendocino County shipping points, at established rates. Within California, delivered prices were to be not less than the delivered minima for California listed in the bulletin, except that sales might be made f.o.b. truck at delivered price less a trucking allowance to the destination in question. (*)

For some time the water rates used were those in effect for lumber rather than split products; since the latter were higher, absorption by the producer of from 50¢ to $4.50 per M. was involved. Accordingly, the Authority's Resident Committee, with the approval of the Costs and Prices Department, approved revision of the regulations to substitute the split product rates, at the request of the California Redwood Association.(**) The new water rates were made effective May 11, 1934, promulgated through Bulletin No. 106 (Volume I). They were also given for an increased number of destination ports between San Francisco Bay and San Diego.

10. Special Woodwork Subdivision

This subdivision of the Woodwork Division embraced all manufacturers of made-to-order or special woodwork, products including doors, windows, screens, frames and interior trim. (***) The number of mills engaged in this type of work is large and almost impossible to estimate; it was put at 4,086 by the Lumber Code Authority.

Methods of pricing custom-built woodwork before the code are thought to have varied, with some fabricators quoting f.o.b. mill, others delivered prices. No basing points or price zones are known to have been used.

When this subdivision submitted its cost protection prices to the National Control Committee of the Lumber Code Authority (the latter not then in session) for approval on November 3, 1933, its representatives were directed to revise their proposals so as to exclude a provision requiring the sale of the products of manufacturers located in any one of four production zones contemplated in the other zones at not less than the minimum prices established for the other zones. (****) The minutes of the committee's

(*) These delivered prices for California varied; lowest prices published were for destination points freightwise nearest Eureka, California; and the prices increased with each ½¢ or 1¢ increase in the freight rate from Eureka. Base (lowest) prices governed for points to which rates from Eureka were 17½¢ or less, per cwt; maxima, where the rate was 62½¢ per cwt. Delivered prices for water shipment to California points showed a similar progression with water freight rates from the ports of shipment.

(**) Cf. Minutes of Meeting, Resident Committee, Lumber Code Authority, April 24, 1934 (In NRA files, Lumber and Timber Products Industries, Folder on "Code Authority Committees, Resident, Minutes, April 1934".

(***) Cf. Schedule A, Section 23 of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p. 140.

(****) Cf. Minutes of Meeting, National Control Committee, Lumber Code Authority, November 3 and 4, 1933 (In NRA files, Lumber and Timber Products Industries, folder on Code Authority Committees - National Control Committee Minutes.)

meeting on this date do not indicate its reasons for this action, but presumably there was objection to the heavy absorption of freight which would be involved for the outside shippers. On the following day, the subdivision was authorized to include in its pricing regulations a provision that, on shipments moving between zones, freight was to be computed from a basing point to be established for the originating zone.

The regulations were revised to the satisfaction of the committee and on November 8, 1933 it approved as minimum cost protection prices for the subdivision (*) the "basic list prices" set forth in Cost Book A, (1933 edition) published by the Millwork Cost Bureau (Chicago, Illinois) and filed with the Lumber Code Authority. There were four production zones established; (**) the basic list prices varied in each by reason of the fact that discounts applicable to the list prices varied as between zones, on identical items. These discounts were for most items, greatest for Zone 1, next greatest for Zone 3, smaller for Zone 2 and least for Zone 4 (individual items excepted). The discounted list prices for each zone applied upon all shipments originating within the zone at all destinations therein; there was no provision for the addition of freight.

These prices were effective upon November 18, 1933 (Lumber Code Authority Bulletin No. 24, Volume I). With them were established, as the Control Committee had authorized, basing points to apply to shipments between zones.

Minimum delivered prices binding upon mills located in Zone 1 (the south and southwest) in shipping to destinations in the three other zones were to be not less than established discounted base prices for the originating zone plus rail freight from Atlanta, Georgia or Waco, Texas, (as basing points), whichever lower. Delivered prices on shipments from each of the three other zones to destinations beyond the zone were to be similarly computed, and the basing points effective for producers in each were: Zone 2 (the northeast), Albany, New York; Zone 3 (the middlewest and prairie states), Cheyenne, Wyoming, Omaha, Nebraska, or Dubuque, Iowa, whichever lower; Zone 4 (the west and far west), Portland, Oregon, or San Francisco, whichever lower.

No substantial changes in this limited basing point system were introduced in subsequent bulletins until Bulletin No. 33 of Volume II (effective July 20, 1934), which provided that, when the established prices plus freight to a certain destination (as determined according to the rules of the subdivision) for a mill shipping into one zone from a location in another zone exceeded delivered prices applicable at the same point for producers within the zone in which delivery was made, the latter prices should prevail as the delivered minima for all mills.

This revision was obviously made to permit freer inter-zone movement of special woodwork. Under regulations previously in effect, producers outside each zone were undoubtedly at a price disadvantage in selling within that zone, since they were required to add freight from basing points within their respective zones, while the domestic mills quoted the base prices. This would operate to exclude producers from shipping to nearly all destinations in other zones, except where considerations of quality or trade reputation influenced buyers to disregard price differentials. Such considerations are important in the custom manufacture of woodwork and millwork.

(Footnotes (*) and (**) continued on next page.

The revisions effective in July, 1934, permitted all shippers, wherever located, to meet the lowest delivered prices at any destination, or, in other words, established complete delivered price equalization within the subdivision.

11. Wirebound Box Subdivision

Within the jurisdiction of this subdivision of the Wooden Package Division were brought all manufacturers of wirebound boxes and crates in the United States. (*) There were in all 52 operators and 54 establishments.

Little is definitely known about this industry's pricing practice before the code, but unchecked information received from one source indicates that products were priced delivered, without reference to freight from any basing point.

Under the code minimum prices f.o.b. mill were established for wirebound boxes and crates effective February 24, 1934, promulgated by Bulletin No. 61, Volume I, of the Lumber Code Authority. Sale in carload quantities was required to be at delivered prices which, if the boxes and crates were made of veneer (in whole or in part), were to be not less than the established prices f.o.b. mill plus freight from New Orleans, Louisiana, or Jacksonville, Florida, whichever was freightwise nearer destination. California-made veneer boxes were, however, to be based on freight from San Francisco. If fabricated from resawn lumber or plywood, the products were to be sold at not less than f.o.b. mill prices plus freight from New Orleans, Louisiana, Jacksonville, Florida, Wausau, Wisconsin, or Winchedon, Massachusetts, whichever was lowest and would result in the lowest delivered price.

Less than carload shipments and local deliveries were to be on the basis of the carload rate from the basing point to the wirebound plant nearest the point of delivery plus freight at less-than-carload rates from this plant to destination. If a plant was located at destination, 20¢ per cwt. was to be added to the delivered price on such shipments.

Plants in Alabama, Georgia, Mississippi, Louisiana, Florida, Texas, Arkansas, South Carolina, North Carolina, Virginia, Wisconsin, Vermont, Massachusetts, New Hampshire and California received a slight price differential. All mills were required to divide delivered prices at all destinations, as calculated from the basing points, by certain percentages, the effect being to increase the delivered price correspondingly; this was "to provide for royalty". But manufacturers in the states listed used a

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(Footnotes (*) and (**) continued from previous page.

(*) This was succeeded on July 20, 1934 by the 1934 edition (following publication of Lumber Code Authority Bulletin No. 33 of Volume II).

(**) As defined, Cf. Exhibit B end of this Chapter.

(*) Cf. Schedule A, Section 30, Code for the Lumber and Timber Products Industries, Code of Fair Competition, Volume I, p. 142.

higher percentage (resulting in lower delivered prices) than those in other states. The former divided by 97%, the latter by 92%, in figuring prices for regular boxes; on Rock Fasteners and James crates the divisions were 95% and 90% for the two groups.

Plants in the states mentioned were considered to be at a distance from the consuming markets, and for this reason were given the 5% differential (in the divisor). The divisors were allegedly arrived at through weighted cost averages of the plants within each group. (*) On the basis of those divisors minimum prices with the subdivision were coordinated with those for other wooden package subdivisions. 70% of the industry's total volume is produced in the states listed above, and was priced at the lower delivered prices.

Subsequent bulletins introduced no significant changes in these rules for delivered pricing until Bulletin No. 44 (Volume II), effective July 20, 1934, abolished the division of plants into two geographical groups, and made mandatory the use of the 92 divisor for regular boxes, the 90 divisor on rock fasteners and James crates, by all operators, wherever located. The subdivisional code administrative agency successfully protested this change (which involved a substantial increase in prices for the mills affected) to the Lumber Code Authority's Resident Committee. (**) The Committee approved a reversion to the former 5% differential in percentages for plants in the states more distant from the markets; to these states, as previously defined, were added West Virginia, Tennessee, Kentucky and all Ohio River points. The change was made effective through Bulletin No. 61, September 20, 1934.

Bulletin No. 93 of Volume I (April 11, 1934) provided that lots picked up at the plant by the buyer were to be priced at the minima plus freight from the nearest basing point.

12. - Egg Case Subdivision.

This subdivision of the Wooden Package Division included manufacturers of egg cases or egg case parts from cottonwood, tupelo, gum and other hardwoods. (***) There were 54 operators and 69 mills in the industry.

No dependable information was available for this report concerning the practice of the industry in pricing its products before the code. With the establishment in the subdivision of minimum prices f.o.b. mill, effective February 19, 1934, there were issued regulations (in Lumber Code Authority Bulletin No. 63 of Volume I) requiring the sale of its hardwood egg cases at delivered prices composite of the minimum prices and published

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(*) Cf. Minutes of Meeting, Resident Committee, Lumber Code Authority September 1, 1934 (In NRA files, Lumber and Timber Products Industries "Code Authority Committees, Resident, Minutes" folder).

(**) loc. cit., para. 9, page 2

(***) Cf. Schedule A, Section 29 of the Code for the Lumber and Timber Products Industries, Code of Fair Competition, Volume I, p. 142.

rail carload rates to destination from one of three basing points. Mills in North Dakota, South Dakota, Nebraska, Kansas, Texas, Oklahoma and all states east thereof were to use as a base Memphis, Tennessee or New Orleans, Louisiana, the lower rate to any destination to be the applicable rate. Manufacturers of cases located in states west of those listed were to sell on the basis of Spokane, Washington, adding rail freight from that point to destination. Sales at the mill for truck delivery were to be computed on the same basis, with rail freight added from the applicable basing point to the point at which delivery was to be made. Mills in western producing territory were not authorized to meet lower delivered prices calculated from eastern basing points, nor were eastern mills authorized to equalize with the Spokane rates.

Subsequent bulletins made no significant changes in these rules for delivered pricing. The subdivision retained its basing point system, to the extent to which compliance was maintained, until December 22, 1934, the date of suspension of cost protection prices.

13. Stained Shingle Subdivision

This subdivision of the Red Cedar Shingle Division included all persons processing, staining and treating wood shingles in the United States. There were no other products under the jurisdiction of the subdivision. (*) Its members numbered 30.

No information was available for this report respecting geographic pricing practices in the industry before the code.

Under the code the subdivision put into effect with Lumber Code Authority Bulletin No. 59 of Volume I, minimum prices f.o.b. Seattle, Washington. Truck and rail carload shipments of manufactured shingles were to be at delivered prices not less than the established minimum prices plus rail freight from Seattle to destination; all staining-in-transit charges were to be absorbed by the staining mill. Water shipments were to be priced on the same basis as rail and truck, except that established water rates were to apply, including all delivery and handling costs, instead of rail rates.

On the other hand, upon less than carload shipments delivered price was to be the sum of the carload price (based on Seattle) delivered to the staining mill, plus a fixed charge (50¢) per square of shingles, plus freight at l.c.l. rates to destination from the staining mill nearest the point of destination. Considerations motivating this exceptional treatment of l.c.l. shipments have not been ascertained.

Custom staining (where the shingles are owned by persons contracting with the mill for the staining) was to be quoted f.o.b. the staining mill, all delivery costs to be for the account of the owner of the shingles.

Subsequent bulletins did not modify these rules for delivered pricing in any important respect; the industry continued to sell carload quantities

(*) Cf. Schedule A, Section 32, Code for the Lumber and Timber and Products Industries, Codes of Fair Competition, Volume I, p. 142.

at prices including freight from the Seattle basing point and to equalize freight with the nearest competing mill on l.c.l. shipments, until the abrogation of cost protection prices.

The industry is not known to have continued the use of the Seattle basing point since suspension.

B. Mill Group and Delivered Price Group Adjustments.

1. The Appalachian and Southern Hardwood Subdivision (*)

Producers, manufacturers and importers of all species of hardwood lumber in the United States were brought under the jurisdiction of a general Hardwood Division. There were seven subdivisions, of which four were established on the basis of producing regions rather than species; principal domestic hardwood species were common to these regions. Of the four, the largest (**) and most important was the Appalachian and Southern Hardwood Subdivision, which embraced producers and manufacturers of hardwood, lumber products and certain softwood species (Appalachian hemlock, white pine, spruce, white and yellow cypress, southern white juniper and red cedar) typically logged by hardwood mills in Texas, Louisiana, Mississippi, Alabama, Arkansas, Missouri, Oklahoma, Florida, Georgia, Tennessee, Kentucky, South Carolina, North Carolina, Virginia, West Virginia and Maryland. (***)

The subdivision was further divided into two producing territories, the Appalachian and the southern. These were precisely defined. (****)

This was necessary because of marked differences in the quality of hardwoods growing on the Appalachian and range of mountains and of the same woods found in the lowlands of the south and southeast. The Appalachian woods are older, higher grade, and would warrant higher minimum prices when cost protection prices were established, if serious maladjustments were not to result, to the competitive disadvantage of the southern woods. The definition of the two territories is said by representatives of the subdivision to have followed the Appalachian range as shown on the maps of the United States Forest Service (*****)

(*) Much of the information upon which this section is based was obtained in the course of an interview between the writer and J. H. Townshend, who was Secretary-Manager of the Hardwood Manufacturers Institute (code administrative agency for this subdivision) during the code period.

(**) Accounting for about 70% of all domestic hardwood production.

(***) Cf. Schedule A, Sections 2 and 3, of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p. 134

(****) Cf. Exhibit B end of this Chapter.

(*****) The northern and southern range of the Cumberland plateau was initially included in the Appalachian territory, but after 400 companies complained that they were unable to sell the inferior hardwoods of the plateau at the high prices in effect for Appalachian woods, it was brought within southern territory.

All lumber and timber products under the jurisdiction of the code were included in this subdivision except poles and piling, hardwood flooring, veneers and plywood and any other products coming within the scope of other divisions or subdivisions.

The oak, gum, poplar, chestnut and other hardwoods produced by mills in the southern and Appalachian territories were sold before the code at delivered prices. No basing points, price zones or other devices for systematic freight equalization had ever been employed in the experience of this branch of the industry.

When minimum prices were to be instituted under Article IX of the Lumber Code, on the basis of a determination of weighted average costs, the difficulties in the way of accomplishing the necessary equalization of delivered prices in this subdivision were well-nigh insuparable. Accordingly, of all systems devised by the divisions and subdivisions of the lumber industry for the maintenance of f.o.b. mill minimum prices through some form of equalization, that of the Appalachian and Southern Hardwood Subdivision is the most intricate and complex. The initial, inherent obstacles in the economy of the subdivision and of the hardwood industry as a whole, as well as the very complexity of the plan adopted worked to defeat the attempt at equalization, and partly as a result of this the structure of cost protection prices was weaker and broke down earlier in this than in other divisions and subdivisions

Chief obstacles to successful equalization were the diffused character of the industry, with no real concentration of sources of supply or of production, the large number of small, irresponsibly managed mills, the fact that markets and consuming industries are scattered and, finally, the nature of the rail rate structure, which is built upon small rather than large origin groups (changes in rates are frequent relative to distance).

As established originally with the publication of f.o.b. mill minimum prices and rules and regulations for their application in Lumber Code Authority Bulletin No. 10 of Volume I (effective Nov. 11, 1933) the system was essentially as follows:

(a) All mills were grouped according to their distance freightwise (at rail rates) from one of several destination points. For Appalachian hardwoods, this point was Cleveland, for Appalachian spruce and hemlock, Pittsburgh. For southern hardwoods and yellow cypress either Toronto, Ontario, or New York City determined the grouping. (*) Groups were set at intervals of one cent per cwt. of freight; thus all mills from which the freight to the respective destination base was, for example, 40¢ but less

(*) The former, for producers in Texas, Louisiana, Mississippi, Arkansas, Oklahoma, Missouri, Western Tennessee (on and west of the Nashville, Chattanooga and St. Louis R. R. from Nashville to Chattanooga) and western Kentucky (on and west of the Louisville and Nashville Railroad from Louisville to Nashville.) The latter, for producers in Alabama, Georgia, Florida, South Carolina, North Carolina, Virginia and Maryland.

than 41¢ were placed in the same group.

(b) Minimum prices f.o.b. mill were established with differentials between the groups; these differentials were set so that all groups might quote the same delivered price at the destination base after adding freight at rail rates from mill to destination. Thus the minimum price effective for mills in one group plus rail freight from the mill to the base or focal destination was exactly equal to the minimum price for mills in any other group plus rail freight to that destination. This meant that the minimum prices f.o.b. mill established for the freightwise most distant group were least; these were the base prices, and the minimum prices f.o.b. mill for every other group (freightwise nearer the destination base) were equivalent to the base prices plus the difference between the rate from that group to the destination base and the rate from the most distant group to the base. Thus the minimum prices f.o.b. mill increased for each group as the destination base was approached, and were highest for the group freightwise nearest the destination base.

(c) To minimum prices f.o.b. mill established for each mill group, mills in that group (in shipping by rail or truck) were required to add actual rail freight from point of shipment to destination, to arrive at delivered price on any sale, but

(d) In order to meet competition (that is, to meet a lower delivered price quoted) in any market in the same species, grade and item, a mill might absorb freight up to ten cents per cwt.

Considerations influencing or the methods involved in the selection of the destination bases used are not definitely known. Toronto was chosen for the southwest mills as the farthest point to which railroads quoted rates in CFA territory. (*) The New York and Cleveland destination bases were certainly not chosen for any such reason, rather as approximating the centers of the consuming territories for each producing area. Similarly, the Pittsburgh point was selected in view of the fact that about 95% of the softwood products of the Appalachian mills moves to markets centering about Pittsburgh (**)

Mill groups created for southwestern mills (on the Toronto destination base) numbered 23, from 51¢ to 29¢ per cwt. freightwise from Toronto; for southeastern mills (on the New York base) there were 24 groups, from 47¢ to 24¢ per cwt. freightwise from New York. The minimum prices f.o.b. mill in effect for southern hardwood and yellow cypress products were the same for the identically numbered mill groups in both origin territories; but the southwest used mill groups numbered from 0 to 22 while the southeast used 2 to 25. This was necessary because the most distant mills in the southeast were less than 48¢ freightwise from New York, while the most distant mills in the southwest were between 51¢ and 52¢ per cwt. removed from Toronto. As it was the use of group 2 minimum prices for mills from 47¢ to 48¢ distant

(*) The Toronto market consumes a large quantity of gum lumber, a species produced in the southern part of the subdivision.

(**) According to former executives of the subdivision. The softwood species, growing on the mountain sides, are logged by mills which are primarily hardwood mills.

from New York would result in correspondingly lower delivered prices at New York than at Toronto.

There were 26 mill groups effective for producers in Appalachian territory (eastern Tennessee, eastern Kentucky, West Virginia, Virginia and Maryland), from 43¢ to 18¢ per cwt. freightwise from Cleveland, Ohio. Mill groups for spruce and hemlock numbered 26, from 40¢ to 15¢ per cwt. freightwise from Pittsburgh.

Delivered prices for rail-and-water or all-water shipments were to be made on the basis of differentials below existing all-rail rates applying between actual shipping point and final destination.

These rules for delivered pricing were in effect with minor changes until the effective date of Bulletins No. 22A and 27S of Volume II on July 20, 1934. Bulletin No. 41 (Volume I), effective March 23, 1934, had provided that absorption to meet competition be only against similar movement (rail against rail, water against water). This rule, according to representatives of the subdivision, was introduced in an effort to stop irregularities in the absorption of freight: rail producers were absorbing in excessive amounts and unnecessarily, on the pretext of meeting water competition. In fact, the new rule greatly encouraged the movement of hardwoods by water from Mobile, Jacksonville and Savannah intercoastal and coastwise to Norfolk and northern Atlantic ports. There had been a negligible movement by water previously. Hardwoods were also shipped down the Mississippi River to New Orleans, from there to Atlantic Coast ports. The railroads have since only partially recovered this lost traffic, according to persons familiar with the industry.

Bulletin No. 41 also had added Georgia, South Carolina and North Carolina (*) to Appalachian territory with respect to hemlock, spruce and white pine production only, had included Appalachian white pine produced in the subdivision in the mill group adjustment for hemlock and spruce, and, finally, had established mill groups for mattress lumber produced in southern territory with Kansas City, Missouri, the destination point used for determination of the 26 groups. Kansas City is the center of consumption of mattress lumber, used for revetement construction on the Mississippi and Missouri Rivers; fir, pine (western and southern), northern hemlock and hardwoods, other species, all were used for this purpose and all were equalized at Kansas City through the Inter-Division Coordinating Committee of the Lumber Code Authority. The mill group adjustment for mattress lumber produced by the Appalachian and Southern Hardwood Subdivision was constructed to maintain the equalized delivered prices at Kansas City.

With Bulletins 27-A and 27-B (**) the lumber Code Authority began publication of separate price bulletins for the Appalachian and southern territories. This was done for reasons of convenience.

These bulletins introduced no fundamental changes in the system of delivered price equalization previously developed. They did, however, contain certain important modifications.

(*) This was accomplished by increasing the number of mill groups by five, to include mills located from 41¢ to (but less than) 46¢ freightwise from Pittsburgh. This was done when it was discovered that there were hardwood mills producing these species which had been omitted from the original adjustment.

(Footnote (**) continued on next page.

Chief of these was the establishment of delivered price groups, in which, destinations in eastern, north central, western and eastern and western Canadian consuming areas were collected.

The delivered price group assigned to each point in the consuming territory was the lowest combination of rail freight applicable to that point from any producing area and the price group (f.o.b. mill) in effect for that area. These groups applied to rail, truck and water (except where special water delivery groups were shown) shipment alike.

With these delivered price groups set up, mills were free to sell either:

a) F.o.b. mill, with buyer paying actual freight from mill to destination, or
b) Delivered at destination, at the delivered price group applicable to that point (regardless of method of delivery. (*)

By permitting all producers to sell in any market at a minimum delivered price determined by the lowest sum of f.o.b. mill price for any mill group and rail freight from mill to destination, the subdivision opened the way to unlimited absorption of freight on shipments of Appalachian and southern hardwoods. Accordingly, the limitation of absorption to ten cents per cwt. against similar shipment only, which had previously been in effect, was eliminated.

Each point in the Appalachian and in the southern producing areas was given both an f.o.b. mill price group and a delivered price group, the latter being set uniformly 3 price groups higher than the former. Any outside mill selling in a community in which a mill was located was required to observe the delivered price group established for the point in question. This adjustment gave each local mill an advantage (*) over outside competitors

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(Footnote (**) continued from previous page.

(**) With publication of Bulletin No. 110 (Volume I) on May 3, 1934, the subdivision had begun to annex indices of origin points, showing the mill group to which each shipping point of consequence in the Appalachian and Southern Teritories belonged.

(*) The latter would never be higher than the former since it was based upon the lowest sum of f.o.b. mill price and freight from any producing area. No mill would have a price advantage by selling f.o.b. mill.

(**) The advantage enjoyed was not the full amount of the three cent freight rate differential, since on sales made f.o.b. mill for shipment within the switching limits of the community in which the mill was located, all delivery charges were to be borne by the buyer. These charges might amount to as much as the differential. If in any case they amounted to more, the mill was free to use the delivered price group applicable.

when selling in its own community. The purpose of this adjustment is stated by Bulletin 27-A to be "to encourage consumers located in communities in which mills are located to buy from the local mills, thus effecting an economic result by minimizing transportation costs."

In the intermediate area between the southern producing area proper and the Appalachian producing area proper each point was assigned its applicable f.o.b. mill group and a delivered price group set uniformly five points higher than the f.o.b. mill price group.

These bulletins included, in addition to indices of mill groups applicable to all shipping points of consequence, indices of destination (or delivered price) groups by states and Canadian provinces. (The price adjustments were in effect for export shipments to Canadian, Mexican and Newfoundland Markets, except of birch, beech and hard maple to Canadian points). An unlisted shipping or destination point was to be considered as in the group assigned to the nearest point on the same railway line taking the same freight rate from mill to destination.

There were special delivered price groups applicable to Atlantic Coast ports to govern sales based upon shipments of southern hardwoods(*) coastwise or intercoastal by water. These represented the f.o.b. port group (for all Gulf ports set at Mill Group No.11, the "average mill group of the producing areas immediately adjacent to these ports plus the approximate average rate of freight to these ports from such areas") plus average switching charges to shipside and average water rates to respective destination ports. Price groups at West Coast ports were to be determined by adding to Price Group No. 11 freight at published Conference rates from Gulf ports. These price groups for both West Coast and Atlantic Coast ports set the minimum price delivered at the dock. All additional transportation and delivery charges to final destination were to be added.

Bulletin 27-S recognized that the delivered groups "thus arrived at are substantially lower than the groups applicable to all rail movement and are designed to preserve the economic advantage of water transportation to consignees and shippers so situated as logically to avail themselves of this facility." The water delivery groups were not to be used where the total cost of effecting delivery to consignee by water movement exceeded that by rail movement.

In the same bulletins (27-A and 27-S) it is reported for both producing areas that the price groups on ash, beech, black gum, soft elm, hickory, soft maple, red and white oak and poplar (plus basswood in the case of the southern territory) differ in some instances from the groups for the other woods, having been adjusted downward to bring the delivered prices on these woods into proper relationship with the same woods in the other producing area. (**)

(*) Appalachian hardwoods do not enter this water traffic.

(**) This coordination of prices was brought about through the Hardwood Coordinating Committee.

Subsequent bulletins made no important changes in the pricing regulations in effect in this subdivision.

According to information received from a former official of the subdivision the mill and destination groups created had the effect of equalizing at least 99% of the movement of southern and Appalachian hardwoods - for practical purposes, the total movement. (*)

The highest freight rate at which southern hardwoods move to CFA and ETL territory are the southern western blanket rates effective for shipping points in Louisiana, Arkansas and Texas. (**) These rates (according to the same source) were the basis for the subdivision's mill and delivered price group adjustment system; that is to say, the base prices established were so set that mills shipping at these rates might enter CFA and ETL on a delivered price parity (after freight at rail rates from mill to destination had been added to the base prices) with freightwise less distant mills.

This does not mean, however, that the delivered prices in effect for southern and Appalachian (***) hardwoods under the code were composed of weighted average costs in the subdivision and freight from the freightwise most distant sources of supply. Again on the basis of information received from the secretary-manager of the subdivision, it is understood that an attempt was made to secure a realization (average net yield) of weighted average costs not for mills shipping from the most distant producing area, but rather for an intermediate group of mills. This intermediate group would be ideally the group for which the freight rate to the destination base in consuming territory was equivalent to the weighted average freight rate at which all shipments of southern (or Appalachian) hardwoods moved to that market, from all producing areas.

It is clear that if this principle were successfully applied the result must have been an exact balance between weighted average cost protection prices and weighted average net yields on all shipments of the products of the subdivision. In view of the difficulties attendant upon any attempt to determine accurately the average freight rate of the intermediate mill group which would secure this result, and in view of an absence of data respecting shipments from various producing areas to consuming territories and the freight charges paid on those

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(*) J. H. Townshend, Secretary Manager, Hardwood Manufacturers Institute, in an interview with the writer of this chapter, on Dec. 18, 1935.

(**) These three states account for a large proportion of the total supply of southern hardwoods.

(***) For Appalachian territory, base prices were in effect for the point freightwise farthest south in Appalachian territory, viz., Murphy, N. C. (On the Murphy branch of the Southern Ry.)

shipments, and, finally, in view of the fact that no investigation of average net yields was completed by the subdivision, it may be doubted that any such exact balance was attained.

Mill Group No.10, for southern hardwoods, and Mill Group No. 15, for Appalachian hardwoods, are said to have been the intermediate groups upon which the subdivision's adjustment system was based.

The differential established in local markets in the producing area in favor of local mills (with f.o.b. mill price groups three points lower than delivered price groups) caused (according to the same source) many difficulties and proved generally impracticable, not for the reason that it tended to foster local monopoly at certain points, but primarily because it put some mills at a slight but often decisive disadvantage in shipping to markets which they had always previously supplied. The cases of mills in West Memphis, Arkansas, selling in Memphis, and of mills in Helena, Arkansas, selling in Little Rock were cited as examples. The differential would probably have been removed had cost protection prices not been suspended.

Compliance with cost protection prices and pricing regulations is said to have been good until about March, 1934. After that it became steadily worse, until a general breakdown was precipitated by the letting of a contract, in which a number of members of the industry participated, for the supplying of a large quantity of hardwoods to a company manufacturing automobile bodies, at less than the minimum prices; this occurred in the late summer of 1934. The wholesaler (*) apparently played an important part in this subdivision (as in the Southern Pine Division) in accelerating the breakdown of compliance, by purchasing at the mill, particularly from small mills, at less than the minimum prices, and disregarding the regulations governing delivered prices at the market.

Failure to understand the complicated regulations led many small mills (early in the period of cost protection prices) to regularly absorb up to the full amount of the 10¢ maximum absorption, whether or not the absorption was necessary to meet competition. This, of course, nullified the effect of the provision as a device to secure delivered price equalization (with all mills absorbing, all were back in their original position, with differentials in delivered prices and only a 10¢ lower average new yield to show for the absorption), and caused great confusion.

Like the equalization systems of other divisions of the industry, that of this subdivision was built upon the principle that the status quo was not to be disturbed, that existing shares of the various producing areas in the various markets were to be maintained.

(*) Although no distribution data is known to be available, it is estimated that about 35 to 40% of all hardwood is sold through wholesalers, the remainder direct to consuming industries.

The coordination of the prices of this and other subdivisions of the hardwood industry was accomplished through the Hardwood Coordinating Committee, code administrative agency for the Hardwood Division. The procedure was as described in Part II of this chapter. Coordination was most difficult as between the North Central, Northern and Southern Appalachian Subdivisions. (*)

Hardwoods of the southern and Appalachian species are sold almost entirely on a price basis and competition within the division is severe. This accentuated the difficulties of administering cost protection prices. There are from five to six thousand mills in the subdivision; of these, (according to the former secretary-manager of the subdivision) about 381 band saw mills produce approximately 40% of the total supply; the others are, with few exceptions, circular mills.

It is important to note that this mill and destination group method of equalizing delivered prices has the effect of putting mills freightwise near the market at a disadvantage in shipping back into producing territory (**) (since they start with the higher base or f.o.b. mill prices), unless they are permitted to meet the delivered prices of the more distant mills at those points, as was allowed under the regulations in effect in this subdivision at the time of suspension. Of great importance also is the fact that members of industries consuming hardwood products (an apt example is provided by the hardwood flooring industries), if located in or near the consuming territory, were required to pay higher base prices for their raw materials than their competitors in the producing territory. It is true that before the code members of these industries so located (at the market) paid, usually, higher delivered prices than their competitors at or near chief sources of supply, but, because of the disorganized condition of the industry and the instability of prices, the difference was by no means as great as the freight from the producing area to the market. Moreover, some members of consuming industries even at or near hardwood markets had been supplied from nearby hardwood mills, in Tennessee, Kentucky and the north central states, at prices comparable to those paid by their competitors in the producing territory. When the mill group adjustment established a differential equal to the full amount of the freight rate, this situation was seriously disturbed. The maladjustment was never corrected, and only non-compliance with the pricing rules prevented it from becoming very serious.

(*) Cf. Part III, Section B 2 of this chapter, the section treating of the North Central Subdivision.

(**) There is relatively little movement of this type.

2. The North Central Hardwood Subdivision.

This subdivision of the Hardwood Division consisted of producers and manufacturers of hardwood lumber and timber products in the states of Ohio, Indiana and Illinois. Poles and piling, hardwood flooring, veneers and plywood and other divisions and subdivisions were excluded.(*) There were about 934 operators in the subdivision.

Products of hardwood mills in this area were sold before the code at delivered prices. These prices bore no relation to freight from the mill or from any basing point, nor were there any price zones. They were competitive prices, largely determined by the competition of producers in the southern and Appallachian hardwood areas. North central mills, in Indiana, Illinois and Ohio, accounting for a relatively small portion of the total supply of hardwoods, were, for the most part, forced to meet the delivered prices set by their southern competitors.

When the Lumber Code Authority's Hardwood Coordinating Committee (code administrative agency for the Hardwood Division) began the work of determining weighted average costs and establishing minimum prices in the division, it found no trade association capable of undertaking the activity in this subdivision. It therefore requested the Hardwood Manufacturers Institute, administrative agency for the Appalachian and Southern Subdivision, to determine and set cost protection prices initially and to devise an adequate plan for equalization of delivered prices.

It is for this reason that the North Central Subdivision during the period of cost protection prices employed a mill group adjustment method of delivered price equalization, closely patterned after (but simpler than) that developed by the Appalachian and Southern Subdivision and the only other such adjustment in use under the code.

Minimum prices f.o.b. mill for hardwood products originating in Ohio, Illinois and Indiana were established effective November 16, 1933, promulgated by Lumber Code Authority Bulletin No. 13 (Volume I).

All mills in the subdivision were grouped according to their distance freightwise from Cleveland, Ohio, at intervals of one cent per cwt. of freight. There were sixteen groups in all, the first (numbered 0) including all mills from which the rail rate to Cleveland was 26 cents per cent., but not in excess of 27 cents; the last (numbered 15) embracing all mills 11 cents but not more than 12 cents freightwise distant from Cleveland.

Minimum prices f.o.b. mill were established for each group, so set that the mill group price plus freight to Cleveland for each group was the same as that for all other mill groups. This necessitated lower prices f.o.b. mill for groups relatively distant freightwise from Cleveland; the lowest, or base prices were those established for Group 0, freightwise farthest from the destination base.

(*) Cf. Schedule A, Section 7, of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Vol. I, p. 136.

Each mill was required to sell at delivered prices not less than the mill group point minimum price applicable to it, plus freight from the mill to destination, except that in order to meet competition in any specific market in the same species, grade and item, freight might be absorbed up to 10 cents per cwt.

Modifications in these principles as issued in later bulletins followed the pattern of such modifications as developed by the Appalachian and Southern Hardwood Subdivision.

Lumber Code Authority Bulletin No. 63 of Volume I, effective March 1, 1934, established f.o.b. mill and delivered prices for 30 groups in place of the previous 16.

In place of the table of freight rates to Cleveland, included in previous bulletins, this bulletin contained a table of mill group numbers for distinations in a number of states within and beyond the limits of the subdivision, including (in the latter) Iowa, Michigan, Wisconsin; Connecticut, Delaware, Kentucky, Maryland, Massachusetts, Minnesota, Missouri, New York, Pennsylvania, and Rhode Island. Since these latter States contained no mills under the jurisdiction of this subdivision, the mill group prices applicable at points therein were delivered prices only.

The fourteen additional groups were created to provide "delivered price groups" functioning as in the Appalachian and Southern Hardwood Subdivision. By reference to the total of destination points and applicable mill group numbers it was possible to find minimum delivered prices at any destination of consequence in the consuming states about the north central territory. These minimum delivered prices were (although this is not explicitly stated in the bulletin) determined as in the sister subdivision by the lowest combination of mill group minimum prices (f.o.b. mill) and freight from mill in that group to destination.

In this way the subdivision equalized delivered prices by permitting unlumited absorption by all mills in meeting a minimum delivered price quoted by another north central mill at any destination.

Limiting the amount of freight absorption to meet intradivisional competition was no longer necessary; this the code administrative agency recognized in the following statement in Bulletin No. 63:

> "This absorption (up to 10¢ per cwt.) will not be necessary with present delivered prices except should there be a differential in some items in other subdivisions and on those lumber products which have only an f.o.b. mill price and show no delivered price, such as items under the head of railway lumber products and including structural oak and timbers."

There were certain to be inter-specie inequalities, however, because of the complicated freight-rate structure and cross-haul rates in Central Freight Association Territory; so that these might be adjusted the provision permitting absorption of freight up to a maximum of 10¢ per cwt. was retained.

It should be noted that the "f.o.b. mill minimum prices" referred to in the bulletin for each mill group and for each group in the consuming territories were also the minimum delivered prices for those groups.

Effective July 20, 1934, following upon the publication of Bulletin No. 29 of Volume II, there were minimum prices applicable for forty-five groups. The table of applicable group points and numbers was correspondingly expanded to include destination in Colorado, California, Ontario and Quebec, and an increased number in states previously included. In this way the scope of the subdivision's minimum price adjustment was expanded.

A letter from the North Central Hardwood Association, which was published in this bulletin, stated the purpose of the mill group point system, as constructed, to be "to have uniform delivered prices to all consuming points". The letter cites a resolution of the Hardwood Coordinating Committee, approved by the Lumber Code Authority, as follows:

> "In the North Central Subdivision mills may assume such freight absorption as may be necessary to meet delivered prices of southern hardwoods at delivered points in the North Central Subdivision and at river points on both sides of the Mississippi and Ohio Rivers bordering the North Central Subdivision".

Indicating that this parity has been achieved the letter goes on to say that:

> "Further coordination has been effected with Northern Hardwood and Northeastern Hardwood Subdivisions. Therefore, in this issue an attempt has been made to provide a publication which will permit one to readily determine f.o.b. mill prices applicable in principal consuming markets, not only in the subdivision, but in adjacent territory as well."

This quotation clearly indicates that the term "f.o.b. mill prices" is loosely used to mean delivered prices, within and without the subdivision.

The subdivision's last price bulletin, No. 70 of Volume II, effective Dec. 8, 1934, made only minor revisions in existing pricing regulations. Destinations in Manitoba were included in the delivered price groups given.

With the suspension of cost protection prices on December 22, 1934, the hardwood industry in the north central states, like the southern and Appalachian branch, abandoned the code-created mill group adjustment, and reverted to its pre-code practice of unsystematic delivered pricing.

Coordination of the prices of the North Central, Appalachian and Southern, and Northern Hardwood Subdivisions proved extremely difficult. As previously stated, the delivered price equalization system of the North Central Subdivision was devised by the code administrative agency

for the Appalachian and Southern Subdivision. It was not only patterned closely after the latter's mill group adjustment plan; the two pricing systems were integrated. Products of north central hardwood mills were to be sold at destinations in their common markets according to regulations which assured delivered prices identical with the delivered prices of the same products of the southern and Appalachian mills. This meant that north central mills were, as a group, quoting prices which were in excess of their actual costs, including weighted average costs of operation and transportation charges: the average net yield at the mill for the subdivision would be in excess of weighted average costs, to the extent of the average amount of freight which the members of the subdivision were adding in order to equalize with the delivered prices of the Southern and Appalachian mills.

There was, however, widespread resistance on the part of the consumers of the north central woods (particularly members of consuming industries, as the oak flooring industry) to the quotation of delivered prices which included this excess freight. Although mills in Indiana, Illinois and Ohio supplied only a small part of the demand for hardwood products in these and other CFA states, the disorganized condition of the industry (with unstable prices and a continuing excess of production over consumption) for many years before the code had not permitted their securing prices which reflected the total cost (including freight) of bringing the bulk of the supply to the market, from southern and Appalachian sources of supply. There was a tendency, in fact, for mills shipping from the south to absorb freight charges.

It is unlikely that cost protection prices in the Appalachian and Southern Subdivision could have been maintained at all had equalization of the delivered prices of its members and of competing north central mills in the vitally important CFA Territory not been effected. The principle should not, however, have been applied rigidly. Thus, there are certain species (for example, hard maple) produced in the north central states which are not produced in appreciable quantities in the south. Where such species did not directly compete with other hardwoods, it was probably not equitable to fix minimum delivered prices on the basis of an addition of freight from southern territory. (*)

(*) The following excerpts from a letter written to the members of the Hardwood Division's Price Coordinating Committee by W.W. Forbes, Secretary-Manager of the North Central Subdivision, dated October 25, 1934, will indicate some of the problems created by the integration of the two adjustment systems:

> "In our Subdivision Beech is largely consumed by the local and nearby woodworking plants and on account of being required to add freight rate from the extreme South it makes the price of Beech far out of line with its intrinsic value. It encourages chiseling when prices are out of reason and out of line with the market. We ask that a reduction on 4/4 and 5/8 be made. On the latter thickness we recommend a price of $35.00, $22.00 and $10.00, which as a base price plus the freight will bring this thickness closer to the present market.

(Footnote continued)

"We feel that we should do everything possible to encourage the wood consuming plants in our territory and to encourage the continued use of wood, and in order to do so we cannot have higher prices for the plants in our territory than those of similar operations further south. We refer particularly to the flooring industry. In order to secure Code compliance on prices and to eliminate the temptation of chiseling we recommend that 4/4 No. 2 and No. 3A Common in Plain Red and White Oak and in Quartered Red and White Oak, No. 2 and 3A Common, and in addition Common Quartered Strips should be reduced so as to protect our few remaining flooring plants in North Central territory. $35.00 base price for 4/4 Common Strips under three inches in width is entirely out of line and should be materially reduced."

* * * * *

"We realize that the transportation of the finished product enters into this price structure of raw material and therefore suggest an approximate price delivered into the flooring markets in the North Central territory of not to exceed $5.00 higher than those Code prices that the flooring plants in the South will be required to pay."

* * * * *

". . . . . In our first price bulletins Quartered White Oak is the same as the Southern Quartered Oak, but for some reason or other subsequent price bulletins greatly increased our Quartered White Oak prices over those of the South. This has closed a great many of our markets on this species and our operators are holding their stock on account of the inequality of prices. The few operators in North Central territory who produce Quartered Oak will naturally try to obtain as high a price as consistent with the market and the quality of their lumber, but in order to make free and open trading we feel that the Southern prices should be granted us to serve as a stop gap. . . . . "

* * * * *

"We want to profit by the recent experience of the Institute and have our prices not the maximum market but to serve as a stop gap. It is our opinion that when new price bulletins are issued buyers of species other than Oak and Gum and other woods on which a substantial reduction has been made will expect some reduction as to their purchases. We believe that it would be good psychology to grant this expectation and will prove much more beneficial than to maintain the present arbitrary prices. We refer particularly to Hard Maple. The South has no Hard Maple and yet we are required to base our delivered prices on the high

Coordination of the delivered prices of the North Central and Northern Hardwood Subdivisions in the borderline territory between the two was never satisfactorily accomplished. Considerable difficulty had been experienced because the former had established minimum delivered prices only, while the latter published minimum price f.o.b. mill with freight to be added from a basing point at Wausau, Wisconsin. Finally the Hardwood Division proposed and the two subdivisions agreed to an adjustment based on the following regulations

"I. In the North Central Subdivision.

In order to meet competition in the territory of Northern Subdivision on Hard Maple, Soft Maple, Red Oak, Soft Elm and Basswood, the delivered minimum price of any item of such species shipped from North Central points to destinations stated below is to be not less than mimimum prices for such items authorized for the Northern Subdivision f.o.b. Wausau, plus freight as below indicated; however where the delivered minimum price on the North Central wood as published in its bulletin is lower, the North Central price shall apply.

Destination	Add frt. per cwt. to f.o.b. price Wausau
Chicago, Ill.	15¢
All territory in Michigan on and South of the Grand Trunk R.R. from Muskegon to Flint and Durand to Detroit, via Pontiac -	20¢

(Footnote from preceding page)
rate of freight from Louisiana, which brings an exceptionally high rice on account of the high group numbers in the northern part of our Subdivision. We will ask that on this species that we be permitted to reduce the group points on 4/4 and 5/4 so that in the northern part of our territory there will be a price near equitable and comparable to an f.o.b. mill price plus a ten or twelve cent rate as in the Northern and Northeastern Subdivisions. We are specifying the 4/4 and 5/4 thicknesses to take care of our local trade and permitting the 6/4 and 8/4 Hody Maple to remain as it is. It has caused a great deal of dissatisfaction in northern Indiana for instance that a mill in South Bend will be required to ask a consumer in the same city $68.00 for 4/4 FAS Hard Maple when he has but a switching charge to pay. Similar situations in Northern and Northeastern Subdivisions can take a $60.00 mill price plus the actual freight. We feel that this should be corrected."

(Cf. Exhibit "B" attached to Minutes of the Inter-Division Coordinating Committee, Lumber Code Authority, Memphis, Tenn., October 25, 1934, in NRA files, Lumber and Timber Products Industries, "Code Authority Committees - Inter-Division Coordinating Minutes" folder.

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II. In the Northern Hardwood Subdivision.

In order to meet competition in territory of the North Central Subdivision on the same woods (except Red Oak) where the delivered minimum price for any item for destination in North Central territory is less than the delivered price on the Northern basis, the North Central price may be applied for shipment from the Northern Subdivision.(*)

These regulations were approved by the Authority's Costs and Prices Department and by the Resident Committee, but were never made effective, because the approval of the National Recovery Administration had not been secured when minimum prices were suspended on December 22, 1934.

The following excerpts from the letter written by the Secretary-Manager of the North Central Subdivision to the Division's Price Coordinating Committee and previously quoted in this section are of interest in indicating the difficulties of price coordination as between the two northern subdivisions:

> ". . . . At the recent meeting of the Hardwood Agency in Washington resolution was approved by that body effecting the coordination of Oak, Elm, Hard Maple, and Basswood as between the North Central and the Northern Subdivisions in the Chicago and southern Michigan areas. There was imposed upon us the adding and subtracting of a ten cent freight absorption on all grades, thicknesses and species on the delivered prices from our subdivision into that territory. After our Cost Department had labored for some time trying to follow the resolution it was found that the adding and subtracting of the ten cent freight absorption will not work satisfactorily for the reason that our operators will not be familiar with the various freight rates to consuming points in that territory based on the nearest representative mill. Therefore, in the spirit of coordination and to make the delivered prices as understandable as possible we feel that we should have the privilege of publishing delivered prices into the said designated territory at the actual delivered prices of the Northern Subdivision as shown by their f.o.b. mill price plus the rate of freight from the nearest representative mill, which in southern Michigan will largely be represented by Charlotte as a base. The freight rate from this representative mill is from 9 to 17 cents."
>
> * * * * *
>
> "We realize that it is necessary to coordinate on one given point, such as Cleveland, but that does not necessarily mean that coordination will be made in other markets. This has been shown by the present bulletins now in effect. We suggest that the Price Department of the Lumber Code Authority carefully scrutinize the copy submitted by the various Subdivisions and make certain that coordination in other markets is assured."

(*) Cf. Minutes of Meeting, Resident Committee, Lumber Code Authority, November 20, 1934. (In NRA files, Lumber and Timber Products Industries, "Code Authority Committees - Resident - Minutes, November, 1934" folder).

C. Delivered Price Zones

1. The Walnut Subdivision

All producers, manufacturers and importers of walnut throughout the United States were included in this subdivision of the Hardwood Division. All walnut lumber, logs, burls, crotches, and sawmill products regardless of the variety of walnut, except walnut veneers, were under its jurisdiction. (*) Walnut is a high-priced species, comparable in value to mahogany. It is logged and sawn into lumber by a very few mills located in the states in which stands of walnut timber in commercial quantities are to be found. These are Illinois, Indiana, Ohio, Missouri, Arkansas, Minnesota, Wisconsin, Michigan, Kentucky and Tennessee.

There are approximately 81 members of the industry operating 150 mills; of these, members of the American Walnut Manufacturers Association, a strong, old-established trade association (organized in 1912), account for between 70 and 80% of total walnut production in the United States.(**) This association was made the administrative agency for the subdivision under the code.

For an undetermined number of years before the code, walnut produced by members of the association was sold at delivered prices which tended to be uniform at all destinations within twelve consuming zones. These zones were exactly defined by the association, and, from time to time, their boundaries were changed.

They were observed and maintained by the cooperation of the association members. This meant simply that the quotation of delivered prices by members was guided by the price-reporting activity of the association. Members reported each week to the association shipments and delivered prices received on completed transactions during the week. These reports showed the delivered price, either the destination of the zone in which destination belonged (***), and the item, grade, size, and quantity shipped. The Association used this data in calculating for each grade and size, the weighted (by quantities shipped) average of delivered prices received upon all walnut shipments to each zone during the week. It then reported the weighted average zone delivered prices to its members, for their guidance in quoting delivered prices at destination within particular zones, on current transactions.

Under ordinary circumstances, a member mill might act on the assumption that the average delivered price reported for a certain zone represented approximately the prevailing price at all destinations in that zone. It might then quote that price at any destination in the zone, or it might quote prices higher or lower than the average, at

(*) Cf. Schedule A, Section 6 of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p. 135

(**) Ten mills are reported to account for 40% or more of total walnut output.

(***) This alternative was resorted to by members who did not wish to risk disclosing the name of a buyer at a certain destination.

various points, depending on such factors as the quality of the product, and trade reputation of the seller and the location of destination.

The existence of the delivered price zones did not mean, therefore, that the prices quoted by members upon every transaction to every destination in a particular zone were at the average; it did mean that prices tended to be at or near the average, and, when demand was strong, the range of delivered prices at all destinations within each zone was continually being narrowed; it followed that the range of prices upon which the averages were based tended to become more and more narrow. At such times there was a relatively high degree of price stability in the industry and the situation in which a single price would prevail on all shipments to all points in a given zone was approached.

Periods of declining demand induced frequent failure to follow the zone average delivered price. The tendency for member mills to quote somewhat below the average on shipments to destinations which, within the zone, are relatively near the producing area, and, conversely, to add, where possible, a differential on shipments to the side of the zone which is farther from the sources of supply, operated particularly under such circumstances.

When cost protection minimum prices were instituted under Article IX of the Lumber Code, the American black walnut lumber, dimension and gunstock products of the subdivision were required (under Lumber Code Authority Bulletin No. 27 of Volume I, effective November 25, 1933) to be quoted and sold in the United States and Canada at delivered prices established for twelve "recognized" consuming zones. These recognized zones were the zones which had been in use by the association for a number of years, with infrequent, minor changes. Map 20 shows the zones as they were during the period of cost protection prices.

No f.o.b. mill minimum prices were included in this or in subsequent price bulletins. The zone delivered prices were, of course, uniform minima at all destinations within each zone. Nine of the zones were in the United States, three (zones 10, 11, and 12) in Canada. Zones 1, 2, 3, and 7 comprised states in the producing area (in the central United States) and the lowest minimum prices were in effect in these zones. The other zones had higher delivered minimum prices in proportion to their distance from the sources of supply. (*)

In calculating these zone-delivered minimum prices the subdivision is reported by persons within the industry to have added to weighted average costs for the industry as determined a weighted average of freight costs on shipments from all mills, to all destinations, in each zone. How accurately these averages were calculated and how adequate and representative was the data upon which they were bases is not known. (**)

(*) The order of sequence from lowest to highest delivered prices was, for most items, as follows: Zone 7, the group of zones 1, 2 and 3, Zone 6, Zone 4, Zone 10, Zone 5, Zone 8, Zone 11 and Zones 9 and 12 together.
(**) The code records of the Walnut Subdivision were not available for the purposes of the study.

The zone delivered prices applied, whatever the mode of shipment, rail, truck, or water. About 95% of the movement is said to be by rail but no data are available showing the amount of traffic by each transportation medium.

No significant changes in the rules for the application of the minimum prices were introduced in bulletins succeeding No. 27 of Volume I. The zone delivered prices were in effect under the code until cost protection prices were cancelled by Administrative Order No. 9-297 on December 22, 1934.

It is understood that since suspension the zones have been in use as in the pre-code period, in connection with the price reporting activity of the trade association. Prices are, furthermore, said to have been maintained at or about code levels.

2. The Mahogany Subdivision.

The Mahogany Subdivision of the Hardwood Division included all manufacturers, importers and distributors (including principals, brokers and agents) of all species of mahogany (except Philippine mahogany) and of the following other foreign hard woods: Spanish cedar, teak, ebony, rosewood, satinwood, boxwood, cocabola, lignum-vitae, wood from Australia sold under the trade name "Oriental Wood", European brown and Pollard oak, all other tropical hardwoods (except those from the Philippine Islands) and all other foreign hardwoods customarily described as "fine", "fancy" or "of value". Ordinary European and Canadian commercial hardwoods were excepted. Products included were logs, hewn or sawn timbers, billets, flitches, dimension stock, lumber and veneers (of a minimum thickness of 5/16"). (*)

These foreign hardwoods are imported for the most part from South and Central America, Cuba, the West Indies and Africa, in the form of logs which are sawn, fabricated and otherwise finished at American mills. The bulk of the industry's volume is mahogany. The number of companies operating under the jurisdiction of the subdivision during the code is reported by the Mahogany Association, Inc., former code administrative agency, to have been 15; this number included importers of logs and lumber as well as firms importing and manufacturing. The firms which were exclusively importers in certain cases had the imported logs manufactured into lumber at domestic mills on a custom basis. Eight domestic mills then (as now) accounted for 95% of total domestic production; the total number of manufacturing operations was (and is) about 10. Six members of the subdivision had offices or factories in New York City, two in Philadelphia, one in Boston, two in New Orleans, one in Louisville, one in Pensacola, one in Chicago and one in Cincinnati. As might be expected, nearly all mills are located in the seaport cities by which the logs enter the country; this results in definite transportation cost economies. Of the eight mills which account for 95% of total production, two are said to supply about 50% of the total. These eight mills are located in Boston,

(*) Cf. Schedule A, Section 24, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Vol. I, p. 135.

New York, Baltimore, Pensacola, Louisville, one each, and New Orleans, where there are three mills. Two other operations are at Indianapolis and High Point, N. C. (*)

Mahogany was sold before the code at delivered prices which, for any species, grade and item, were uniform at all destinations in domestic markets east of the Mississippi River (and including certain points on the west bank, as St. Louis). On shipments west of the Mississippi freight was added to the uniform delivered prices at rail rates from the gateways, but consumption in these markets was an almost negligible proportion of total domestic consumption (**) (estimated at less than 5% by the secretary of the association.) (***)

The largest user of mahogany is the furniture industry, and principal markets are at such centers of furniture production as Chicago, Rockford, Ill., Grand Rapids, Michigan, and certain towns in Indiana and western New York. Lesser markets are in Minnesota, eastern Pennsylvania and New England. There is a considerable demand for wood for interior trimming, but this market has in recent years been poor because of inactivity in construction, particularly of the types using this product.

The practice of uniform delivered pricing in this industry before the code grew out of a combination of favorable circumstances. Mills were at widely separated locations; the bulk of production originated at plants in cities on the Atlantic and Gulf Coasts. These mills, typically large, all shipped to the same markets, chiefly in the interior and not, on the whole, widely dispersed. The small number of producers and the fact that only a few controlled so large a proportion of the total volume made agreement on a mutually satisfactory delivered pricing policy possible. A strong trade association facilitated their cooperation. (****) The high value of the product per unit of weight and measurement (highest value of all products of the lumber industry), the coorelative fact that actual freight charges constituted a relatively small proportion of total price, made it practicable to quote a single price delivered at all destinations in domestic markets except west of the Mississippi where buyers were scattered and distances of shipment long.

Departures from the practice of uniform delivered pricing, however, are said to have been frequent in periods of depression, particularly just before the code was adopted. The pressure of competition induced these departures, particularly on shipments to consumers in a mill's immediate markets, where the quotation of such a price involved the addition of non-existent freight charges (to permit absorption of freight costs on more distant shipments).

(*) According to George Lamb, Secretary of the Mahogany Association, Inc.
(**) This is of course not to be understood as consumption by final users of mahogany, rather as consumption by the fabricating industries.
(***) In an interview with the writer of this chapter. Unfortunately the association has no data as to the distribution of its products by states or consuming territories, nor is any known to be available elsewhere.
(****) Nine companies in all are now members of the association.

When cost protection prices were instituted in this subdivision, its products were required under Lumber Code Authority Bulletin No. 12 of Volume I (effective November 10, 1933) to be sold at minimum prices which were uniform delivered prices at all destinations within the United States (west as well as east of the Mississippi River), and thus included an average freight cost from all shipping points to all consuming points. These prices were to apply whatever the method of shipment, rail, truck, or water. No f.o.b. mill minimum prices were established or published in this or succeeding bulletins.

The Hardwood Coordinating Committee, Code Administrative Agency for the Hardwood Division, stated the purpose of the uniform delivered pricing to be the prevention of monopoly in the territory dominated by each of the mills; this was necessary because mills were so few and so scattered; uniform delivered prices would "enable consumers to look on any producer as a source of supply". (*)

Subsequent bulletins revised these prices but made no significant changes in the rules for their application. Uniform delivered minimum prices were in effect under the code until December 22, 1934, effective date of Administrative Order No. 9-297. According to information received from the secretary of the Mahogany Association, Inc., (**) the industry has continued to sell at uniform delivered prices in the post-code period, with no break in the price level.

The method used in determining uniform delivered minimum prices under the code is not definitely known, (***) but there is understood to have been an attempt at the weighted averaging of the freight bills of all mills to all domestic destinations over a representative recent period.

(*) Cf. Letter from L. S. Beale, Secretary, Hardwood Coordinating Committee, to E. A . Selfridge, Deputy Administrator, National Recovery Administration, January 11, 1934. (In NRA files, Lumber and Timber Products Industries, Transcript of Code Hearing, January 12, 1934, pp. 674-83)

(**) In the course of an interview between George Lamb, the secretary, and the writer of this chapter, on December 20, 1935.

(***) Files of the Asscciation from the code period were in storage and unavailable for this study.

3. The Southern Rotary Cut Lumber Subdivision

This branch of the industry included manufacturers of package and box grades of rotary-cut lumber in North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Tennessee, Arkansas and Texas. Products were defined as lumber manufactured on rotary lathes for cases, crates, and fruit and vegetable packages, whether for sale to manufacturers, or for fabrication by the rotary cut lumber producer, or for sale on the open market. (*) There were 52 members, operating 76 mills, under the code. Units are typically small.

The Southern Rotary Cut Lumber Industry was made a subdivision of the Southern Pine Division for reasons which were primarily administrative: it is in no way competitive with the southern pine industry and had no real economic affinity with that industry, but the producing area for pine and rotary cut lumber is, roughly, the same, and the producers of the latter were not organized, at the time the code was adopted, in a representative trade association.

The products of this subdivision, box and package grades of veneer alike, were sold before the code at f.o.b. mill or delivered prices without the use of basing points, price zones or other devices for systematic delivered price equalization. Prices at destinations bore no fixed relation to freight charges from point of origin or other point. Where f.o.b. mill pricing was used, price at the mill was not uniform for all buyers wherever located: it was adjusted to meet competitive prices at destinations.

At the inception of cost protection prices, minimum prices f.o.b. mill were established for the products of the subdivision, effective November 17, 1935 (promulgated through Lumber Code Authority Bulletin No. 25 of Volume I). Both box and package grades were to be sold at delivered prices not less than the f.o.b. mill minima plus actual freight from origin to destination. The regulations failed to provide for the absorption of freight by freightwise distant mills to meet lower competitive delivered prices; delivered price equalization was impossible under the rules adopted.

However, on January 11, 1934, Bulletin No. 53 of Volume I appeared, effective January 21, 1934, and entitled "A Change Applicable to Bulletin No. 25". It contained a provision against sale at less than minimum prices as established in Bulletin No. 25, f.o.b. mill prices plus lawful (rail) freight from origin to destination; except that, in order to meet the competition of a more favorably located mill on the same item in a specific market, a producer might absorb up to but not exceeding 10¢ per cwt. Bulletin No. 85, effective March 26, 1934, restricted the meaning of "more favorably located mill" to mill "in the same subdivision".

A second radical revision in the geographic pricing practice of this subdivision under the code was brought about through Bulletin No. 13, Volume II, effective July 20, 1934. This bulletin provided for the sale

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(*) Cf. Schedule A, Section 15, of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p. 137.

of southern rotary cut lumber in domestic markets at not less than f.o.b. mill prices established plus fixed average freight or delivery charges, varying between nine geographical market zones. A uniform freight charge established for each zone was to be added to f.o.b. mill price on shipments to all destination points within that zone, to form the delivered price there for all mills within the subdivision.

The definition of these zones and the uniform freight charge in effect to all destinations within each is attached under Exhibit B, end of this Chapter.

On shipments into Zones 1 and 1A, where the actual rail freight exceeded $4.00 per M ft., an amount was to be added to the f.o.b. mill price to equal this excess (that is, to say, delivered price was to be equal to the minimum plus actual rail freight from mill to destination).

Bulletin No. 66, Volume II, effective November 9, 1934, altered the definition of these zones somewhat, and revised f.o.b. mill prices and uniform freight charges downward. The zoning system as modified is also given in Exhibit B.

This system of zone delivered prices remained in effect until December 22, 1934, when the minimum prices were suspended.

There are only about 25 buyers of box-grade veneers (the principal product of rotary-cut mills) in the United States. About two thirds of these are box and crate manufacturers, who were under the Wirebound Box Subdivision of the Wooden Package Division. According to the former secretary of the Southern Rotary Cut Lumber Subdivision (*), 80% of sales to these box makers are to destinations in or about Chicago, taking Chicago freight rates from producing points. The other one-third of the buyers are manufacturers of composition roofings who buy the veneer for the packaging of shingles and other products; most of this volume takes Kansas City freight rates, as that city is the principal market. The subdivision is said not to compete directly with any other lumber group, but in recent years it has been rapidly losing its markets to paper and and metals used in the manufacture of substitutes for wooden boxes and containers.

The requirement that all mills add actual rail freight from mill to destination to form delivered price, without the opportunity to absorb freight, proved, as might be expected, impracticable. The long-haul mills, in the far south, were at what in many instances was a decisive price disadvantage in shipping to markets upon which they depended in maintaining production - their principal markets.

Nevertheless, the code administrative agency for the subdivision did not take action to alter and liberalize the regulations for several months. The initiative in bringing about a change was taken by interests outside the subdivision.

(*) J. F. Carter, Secretary, in an interview with the writer.

When the National Recovery Administration announced hearings on the lumber code to take place in January, 1934, representatives of a prominent Chicago mail-order house, a buyer of rotary-cut veneer in large quantities, brought what it considered to be inequities inthe pricing rules of the sub-division to the attention of NRA officials. The company's wholesale department protested the exclusion of freightwise distant mills from markets in Central Freight Association Territory, as a result of the impossibility of their quoting competitive delivered prices under the regulations then in effect. It asked that such mills be permitted to absorb the freight rate differentials. (*) The company's reason for protesting was indicated to be the interest which it had in a mill supplying much of its veneer needs, a mill which was disadvantaged under the prevailing regulations.

The company further sent a representative to the Lumber Code Hearing on January 10, but by this time the representative was able to report that although the regulations had in the past worked to produce a monopoly for certain favorably located mills, the matter had been "adjudicated" satisfactorily by NRA (**)

This "adjudication" was evidenced on the following day by the publication of Lumber Code Authority Bulletin No. 38 (Volume I), which authorized absorption of freight up to ten cents per cwt. to meet competition in any market from a more favorably located mill (the rule effective on January 21.).

It is the contention of the secretary of the former code administrative agency that the new rule was approved by the Lumber Code Authority at the instance of the National Recovery Administration, to which the protesting company had directly gone; also, that the subdivision did not approve the principle of freight equalization "with nearest competing mill". After the revised rule was effective, the protesting company is reported to have partially converted a box mill at Indiana Harbor, Ind., to the manufacture of rotary-cut lumber on a small scale. The newly-opened mill was then used by this and other buyers to force down the prices of southern rotary-cut lumber products by exerting pressure upon the producers to equalize with this "nearest competing mill" to the important Chicago market. The disorganized state of the industry and the severe competition on the part of its members in declining markets permitted this pressure to be successfully applied. (***) All or nearly all mills absorbed freight up to the maximum in order to meet the low delivered prices of the Indiana Harbor mill. This meant general absorption of freight by the industry to an extent which must have reduced average net yields much below the weighted average cost protection prices. (***)

(*) Cf Telegram, from D. V. Swearingen, Manager, Wholesale Department, Montgomery Ward and Company, to Hugh S. Johnson, Administrator, December 20, 1933. (In NRA files, Lumber and Timber Products Industries, "Prices-Basing Points-Complaints-Southern Rotary Cut Subdivision" folder.)

(**) Cf. Statement of D.V. Swearingen, Montgomery Ward and Co., January 10, 1934, (In NRA files, Lumber and Timber Products Industries, Transcript of Code Hearing, p. 341.)

(***) All of this information is as received from John Carter, Secretary of the Southern Rotary Cut Lumber Subdivision, in an interview with the writer of this Chapter on December 17, 1933. It cannot be checked at any source and is not presented in this report as established fact.

This heavy, general freight absorption induced disrespect on the part of industry members for the minimum prices and regulations; from this time on compliance with prices and rules alike is said to have been very poor. Provision in Bulletin No. 85, effective March 26, 1934, restricting the meaning of "more favorably located mills" to mills in the same subdivision is said to have had very little effect. Members continued to absorb freight to equalize with the Indiana Harbor mill, or disregarded prices entirely.

There were only three or four manufacturers of these grades of veneer beyond the geographical limits of the subdivision (these were in Pennsylvania, Illinois and Indiana); these mills accounted for about 5% of total production, but they were beyond the jurisdiction of any division of the code and constituted a disturbing factor in the administration of the code in the Southern Rotary Cut Lumber Subdivision. (*)

As a final attempt to solve the problem of delivered price equalization and the maintenance of cost protection prices in the industry, the delivered price zones were constructed and made effective July 20, 1934. The subdivision was attempting to circumvent the heavy overall freight absorption involved in equalizing with "nearest competing mill" and also to protect mills located relatively far from the market, for whom the ten cent per cwt. maximum freight absorption did not suffice. However, compliance with the minimum prices broke down completely in the subdivision in the late summer of 1934. The zones never were really tested or applied and it is impossible to draw other than theoretical conclusions as to their soundness or practicability.

The Price Committee of the subdivision had unanimously approved the plan for creation of nine price zones at its April 24 meeting. On April 26, as a necessary preliminary to establishing the zones, the subdivision sent out forms to all its members, upon which they were requested to report the freight rates applying from the mill to each of 55 destinations (in Southern, Central Freight Association and Eastern Trunk Line Territories) listed. No information apart from the freight rates was requested. In an accompanying letter "To All Manufacturers of Box and/or Package Grade Veneers in the South", the secretary of the subdivision stated that "the proposed delivered prices would be based upon cost protection prices f.o.b. mill plus an arbitrary freight figure; this arbitrary freight charge to be calculated so that, as nearly as possible, every manufacturer will have a fair chance". (**)

(*) On December 18, 1934, four days before price suspension, the Lumber Code Authority's National Control Committee approved a resolution for an amendment to the code to, first, extend the jurisdiction of the subdivision to all areas producing rotary cut lumber in the United States, and, second, to remove the subdivision from the Southern Pine Division and place it in a proposed new Veneer Division. The proposed amendment was to be filed with the National Recovery Administration. It was never approved.

(**) Cf. Bulletin of the Southern Rotary Cut Lumber Association, April 26, 1934. (In NRA files, Lumber and Timber Products Industries, Code History, Exhibit K)

The zones and zone delivered prices which were effective on July 20 were based largely on reports received in response to this bulletin. The data and computations have been destroyed. It is clear, however, that even with complete returns from all operators freight rates alone were insufficient as a basis for the determination of average freight charges to all points within defined zones.

When the zones and prices were revised, effective November 9, 1934, the Lumber Code Authority's Resident Committee was able to recommend approval of the "minor revisions" by NRA; these revisions were "necessary to make a more equitable (freight) charge for certain zones established due to the compiling of actual sales into each of the listed zones. The complete experience has been established for each zone substantiating the establishment of additional zones and changes of base freight."(*)

The compilations of data referred to have also been destroyed. In any case, it may be considered remarkable that the zones and zone prices established on the basis of clearly inadequate data in July should require only minor revision upon the completion of a survey of actual shipments, rates, etc., into each zone. (**)

The conclusion seems justified that this subdivision had by no means solved its problem of delivered price equalization when prices and pricing regulations were suspended on December 22, 1934.

Since that date the manufacturers of southern rotary cut lumber and veneers have reverted to their pre-code pricing practice.

4. Stock Manufacturers (Woodwork) Subdivision

This subdivision of the Woodwork Division included, as the name indicates, all manufacturers for stock (as distinguished from producers of custom or made-to-order woodwork) of standard doors, windows, screens, frames, trim and miscellaneous woodwork. It was specifically limited, however, to manufacturers whose products were predominantly those mentioned. (***)

(*) Cf. Paragraph 16, Minutes of Meeting, Resident Committee, Lumber Code Authority, October 19, 1934, (In NRA files, Lumber and Timber Products Industries, "Code Authority Committees - Resident - Minutes, October, 1934" folder)

(**) That the actual freight paid on shipments to the zones averaged something in excess of the uniform freight charge established "in all except 2 or 3 zones", with absorptions exceeding additions, was the impression of Wm. E. Yost of the Research and Planning Division of the National Recovery Administration after examining the Lumber Code Authority's file (the data and computations presented by the subdivision), on the subject on October 24, 1934. For this reason he was able to state that the "information seemed to point out that the zone points are justified." Under such circumstances, however, (with absorptions exceeding additions) it is clear that cost protection prices were not being maintained and that the industry was not recovering costs of operation in the prices of its products, as was the intent of Article IX of the Code. (Cf. Letter from W. E. Yost to J. C. Wickliffe, Assistant Deputy Administrator, October 24, 1934, in NRA files, Lumber and Timber Products Industries, files of the Research and Planning Division)

(***) Cf. Schedule A, Section 21 of the Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p. 140.

This important wood fabricating industry, which had 140 members and 160 mills, required, under the code, delivered prices uniform at all destinations with defined zones. Sale was to be at the zone price "f.o.b. factory with freight allowed to zone of destination". (*) Two sets of zones were used, one, comprising six in all, applying to the sale of veneered hardwood doors; the other, including thirteen zones, applying to all other stock woodwork. A schedule of prices for items and classification of product was issued for each, varying between zones.

These rules were published in the subdivision's first Lumber Code Authority Bulletin (Volume I, No. 23) effective in November, 1933. Succeeding bulletins in 1934 made no essential changes in the zone-delivered pricing system. Bulletin 97 of Volume I increased the number of zones effective for stock woodwork, other than veneered hardwood doors, to sixteen. The subdivision continued to require uniform delivered pricing by zones to the date of the suspension of cost protection prices in the lumber industries, December 22, 1934.

Stock screen products of the subdivision were sold at uniform delivered prices to all destinations in domestic markets. There were no zones. Full freight was allowed to all destinations, except that on less-than-carload sales to retailers and wholesalers actual freight was allowed only up to 50¢ per cwt. These rules were effective November 9, 1933, following the publication of the first price bulletin covering stock screen products. Later bulletins made no significant changes in the original rules.(**)

No information was available for this report concerning the geographic pricing practice of this industry in the pre-code or post-code periods.

5. Sawed-Box, Shook, Crate and Tray Subdivision

Manufacturers, distributors and selling agents of sawed wooden boxes, shooks, crates and trays, whether in shook or in made-up form, and the component parts of these products, were under the jurisdiction of this subdivision of the Wooden Package Division. (***) The code administrative agency (the National Wooden Box Association) for the subdivision divided the continental United States into two main production areas, east and west of 100° west longitude (which approximately bisects the Dakotas, runs through Kansas and Texas), the eastern territory being termed "Central and Eastern Areas", and the western given the name "Pacific, Pacific Northwest and Inland Empire Areas". Separate price bulletins and rules and regulations for pricing were published for each territory.

(*) All sales tax and freight surcharges, however, were to be paid by the purchaser.

(**) After July 30, 1934 (Bulletin No. 32 of Volume II) on l.c.l. shipments of certain items no freight was allowed; on the remainder, the 50¢ absorption maximum was continued.

(***) Cf. Schedule A, Section 25, Code for the Lumber and Timber Products
9864 Industries, Codes of Fair Competition, Volume I, p. 141.

Minimum delivered prices by zones, uniform for all destinations within each zone, were established for both areas. The territory west of 100° west longitude was divided into three "delivery groups", the Pacific Division, the Inland Empire Division and the Pacific Northwest Box Association. The first included 11 zones (principally in the far southwest) embracing "all destinations to which the legal published rate of freight from Weed, California, or Klamath Falls, Oregon (whichever lower)" is not less than 14¢ and not more than 63½¢ per cwt (the zones being based on freight rate gradations within this range); the second included 11 zones, geographically bounded, in the Inland Empire region of the northwest; the third was constituted by the state of Washington west of the Cascade Mountains. Delivered prices on the various product items and classifications were set for each zone, applying to all sales for delivery to any point within the zone, whatever the origin of the shipment. (Cf. Bulletins No. 64 and 111 of Volume I, and No. 47 of Volume II.)

The Central and Eastern areas (east of 100° west longitude) were divided into 48 consuming zones and delivered prices uniform for all destinations from all shipping points were established for each zone.

Later bulletins did not substantially alter these requirements for zone delivered pricing of sawed boxes, shooks, crates, trays, wooden bottle boxes and shooks, wooden tin, terne and blackplate containers and New England market boxes and shooks. They remained in effect until the suspension of cost protection prices.

In the case of this subdivision, as in the case of other divisions and subdivisions of the lumber industry employing uniform delivered pricing under the code, the existence of such a practice postulates the determination not only of a weighted average production cost for all manufacturers in the subdivision but also a weighted average transportation cost to all consuming points from producers shipping to those points in each zone. In the absence of the latter, particularly serious maladjustments in the marketing structure of the subdivision with reference to the share in each geographical market obtained by groups of manufacturers variously located are almost inevitable. It has been impossible to determine how successfully or accurately this was accomplished in this subdivision.

6. Plywood Package Subdivision

This subdivision of the Wooden Package Division consisted of manufacturers of plywood packages or containers and of flat plywood for package or container purposes.(*) There were in all about 80 establishments in the industry, operated by 28 companies.

With the establishment of cost protection prices in this subdivision, all shipments to destinations east of the 100th parallel of longitude were to be delivered prices. These prices were published in Bulletins No. 60 of Volume I, and No. 21 of Volume II (Lumber Code Authority), and were

(*) Cf. Schedule A, Section 26, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume II, p. 141.

uniform for all destinations within each of two zones, the northern zone embracing all points north of a line running from the eastern seaboard along the Potomac River to the southern boundary of West Virginia, thence to and along the Ohio River to Missouri where it followed the southern boundaries of that state and Kansas to the 100th parallel. The southern zone included all territory in the United States south of this line. The delivered prices upon the various package items differed between these two zones; to what extent they represented composites of weighted average costs in each zone and weighted average transportation costs from all shippers to all consuming points therein has not been determined.

Zone delivered prices for territory east of 100th parallel were in effect for this subdivision until Administrative Order No. X-297 discontinued cost protection prices in the industry. No provision seems to have been made for prices in western territory.

7. The American Veneer Package Subdivision

All manufacturers of veneer packages and containers, not included in other subdivisions of the Wooden Package Division (numbering in all about 514 companies and 524 establishments) were brought within the definition of the American Veneer Package Subdivision. Products were listed as baskets and hampers made in whole or in part of wood veneer (or of wood in combination with other materials), and wooden veneer boxes, shooks, crates, trays and their parts, including veneer hoops, basket and hamper bottoms. (*) The subdivision thus embraced all manufacturers of these products not under the jurisdiction of the Standard Container Subdivision (in Florida, Georgia and Alabama) or the Pacific Veneer Package Subdivision (in the far west).

Under the pricing rules and regulations of the American Veneer Package Subdivision as published in its first Lumber Code Authority Bulletin (Volume I, No. 74) its members were required to sell in domestic markets at minimum delivered prices, on carload shipments, which were uniform at all destinations. Prices listed in the bulletin were to be net if sales were made delivered; if sold, f.o.b. factory, full freight was to be allowed at lawful rail rates.

On less-than-carload shipments the same minimum prices which applied delivered to sales in carload quantities were to be quoted f.o.b. factory with actual freight added to form delivered prices.

Delivered prices on these products were somewhat higher in areas west of the Rocky Mountains than east. The element of freight and delivery cost included in these delivered prices was reported by the Lumber Code Authority's Committee on Costs and Prices to be the "national weighted average of all reporting factories within the jurisdiction of this agency, with the exception of shipments going west of the Rocky Mountains, on which

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(*) Cf. Schedule A, Section 30a, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p. 142

a differential is added". (*)

The subdivision continued to require sale at uniform delivered prices until July 16, 1934, when Bulletin No. 42 of Volume II became effective. This bulletin divided the continental United States into six zones, four of which were west of the 100th parallel of west longitude, two east. Minimum delivered prices were established varying between zones, effective at all destinations within each zone. Rules and regulations for their application were substantially the same as before. These zones applied also to the Standard Container Subdivision. They were in effect until Administrative Order No. 9-297 discontinued cost protection prices in the lumber industry on December 22, 1934.

8. The Pacific Veneer Package Subdivision

Fabricators of baskets and hampers in whole or in part from wood or wood veneer and of wooden veneer boxes, shooks, crates, trays and component parts (as veneer hoops, basket and hamper bottoms) if located in Idaho, Washington, Oregon, California, Arizona, Nevada, Utah and west of the 108th degree west longitude in Montana, Wyoming, Colorado and New Mexico, were under the jurisdiction of this subdivision of the Wooden Package Division. (**) There were, in all, 34 members of the industry in the territory operating 38 mills.

The subdivision, through Lumber Code Authority Bulletin No. 67 of Volume I, effective February 20, 1934, made it mandatory upon all its members to sell in domestic markets at delivered prices. Minimum prices f.o.b. mill were published in the bulletin; there were also given "weighted average freight rates for the industry to destinations" within each of ten consuming groups or zones. Delivered prices were to be for any destination point the sum of the minimum prices f.o.b. mill and the weighted average freight rate applicable to the zone in which the destination was located.

No indication of the method of determination of the boundaries of the zones was given but an index of destinations was attached showing for each destination the applicable group. Shipment to delivery points not listed in the index was to be "at established rail rates from Aberdeen, Washington to destination". This system of zone delivered pricing was in effect during the life of cost protection prices under the code.

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* Cf. Report of the Committee on Costs and Prices to the Lumber Code Authority, Docket No. 99, Sheet No. 2, February 4, 1934, entitled "Veneer Fruit and Vegetable Package Subdivision (the original name of the subdivision), Costs and Prices". This report was presented to the Authority at its meeting on February 6, 1934 and is to be found as Exhibit A in the Minutes of that meeting. (In NRA files, Lumber and Timber Products Industries, "Lumber Code Authority Minutes" Folder.)

** Cf. Schedule A, Section 28, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, page 142.

It is to be noted that this is one of the few divisions or subdivisions which explicitly placed the determination of zone delivered prices on the basis of minimum prices f.o.b. mill (at weighted average costs for the industry) plus a weighted average transportation cost from all members of the industry shipping to a given zone to all destinations within the zone.

9. The Standard Container Subdivision

This subdivision of the Wooden Package Division included all manufacturers of wooden packages in Florida, Georgia, and Alabama. Products were defined as baskets and hampers made entirely of wood veneer or of wood veneer and other materials, or of wood in combination with other materials, and wooden veneer boxes, shooks, crates, trays and component parts including veneer hoops, basket and hamper bottoms. (*) There were 55 operators and 62 mills in these states.

Under regulations issued by the subdivision in the Lumber Code Authority Bulletin No. 74 of Volume I, its members were required to sell in domestic markets at minimum delivered prices on carload shipments which were uniform at all destinations. If the sale was f.o.b. the factory, full freight on the basis of rail rates was to be allowed. On l.c.l. shipments the same minimum prices effective as delivered prices on carload shipments were to apply f.o.b. factory with freight to destination added to arrive at delivered price.

These minimum delivered prices uniform at all destinations were unchanged until July 16, 1934 when Bulletin No. 42 of Volume II became effective. This bulletin established six zones "reflecting common past practices" and embracing the entire continental United States. These zones applied to the sale of products of the American Veneer Package Association as well as of the Standard Container Subdivision, and were maintained until the suspension of cost protection prices.

10. Plywood Subdivision

All producers, manufacturers, importers and distributors of commercial plywood throughout the United States, regardless of species or origin, except Douglas fir, western cedar, spruce, western pine, hemlock, redwood and plywood manufactured and sold exclusively for boxes, crates and other containers, were included in this subdivision of the Veneer and Plywood Division. (**) There were 93 operators and 109 mills in the subdivision.

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* Cf. Schedule A, Section 27, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p.141.

** Cf. Schedule A, Section 34-A Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, page 709.

The nature of the plywood industry's pre-code experience with delivered or f.o.b. mill pricing is not known. Under the code, the first Lumber Code Bulletin, No. 3 of Volume I, effective (on November 7, 1933) for this subdivision established minimum prices f.o.b. mill and provided for sale in domestic markets at delivered prices not less than these minima plus freight from origin to destination. Two lists of f.o.b. mill prices were published, for northern and southern plywood products, respectively as defined.

Sale at delivered prices to include actual freight from mill to destination was almost immediately recognized as impracticable. On November 13, 1933, on the appeal of the Plywood Subdivision for relief, the Lumber Code Authority's Resident Committee approved a rule to the effect that the established prices and regulations should not be applied so as to "prevent any producer from meeting competition offered in good faith by any other producer more advantageously situated". The rules then in effect were held not to conform to the requirements of subsection (i) of Article IX and of Article XV of the Code. (*)

The resolution of the Resident Committee was taken as authorization for the equalization of delivered prices in the subdivision, and this was done for sometime after that by the addition of freight from nearest competing mill to destination.

The lapse of time between the first and succeeding bulletins was not long. Two of the latter, Nos. 43 and 56 of Volume I, issued about the turn of the year (1933-1934) altered the subdivision's delivered pricing practice radically, providing for sale at minimum delivered prices established for seven market zones (into which the continental United States was divided). These delivered prices varied between zones, presumably were arrived at as the sum of weighted average costs for the subdivision plus weighted average transportation charges from all producers shipping to a certain zone to all destinations within the zone. They appear to apply, undiscounted, as uniform delivered prices, including freight, on l.c.l. shipments to all domestic destinations. Basic list minimum delivered prices were published, and the zone delivered prices were at varying discounts from these basic net prices, the discounts being known as "zone freight deductions allowable".

The rules for zone delivered pricing were in effect to the date of suspension of cost protection prices in the lumber and timber products industries, December 22, 1934.

11. Commercial Veneer Subdivision

This subdivision of the Veneer and Plywood Division consisted of producers, manufacturers and distributors of rotary cut commercial veneers throughout the United States, except Douglas fir, western cedar, spruce, western pine, hemlock, walnut, mahogany and other face woods "of value",

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* Cf. Minutes of the Resident Committee, Lumber Code Authority, November 13, 1933 (In NRA files, Lumber and Timber Products Industries, "Code Authority Committees - Resident - Minutes, 1933" folder).

and, finally, veneers manufactured exclusively for crates and other containers. (*) Members of the subdivision numbered 54; there were 99 establishments.

No information was available for this report concerning the pre-code pricing practice of this industry.

Under the cost protection prices, initially, sale of commercial rotary cut veneers was required to be at delivered prices not less than established minimum prices, f.o.b. mill, plus freight from origin to destination. Early in the code period, however, new rules and regulations were adopted (Lumber Code Authority Bulletin No. 52 of Volume I) which defined fifteen consuming zones, with a schedule of minimum delivered prices for each zone and varying between zones. Later bulletins differentiated between the several hardwood species utilized by the division, establishing fifteen consuming zones for veneer made from gum, poplar and "related woods" and seven zones for veneer for oak, northern basswood, birch and "related woods". Also, Canada and Mexico were included in the definition of domestic markets in the later bulletins.

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* Cf. Schedule A, Section 34-B, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, page 709.

12. The Douglas Fir Plywood Subdivision

This subdivision of the West Coast Logging and Lumber Division included manufacturers of Douglas fir veneers and plywood in Oregon and Washington. There were 17 mills in the subdivision. (*)

Under the code this branch of the plywood and veneer industry applied minimum cost protection prices as delivered prices which were uniform at all destinations within defined zones. There were in all 16 zones. The freight cost element in the minimum delivered price for each zone was reported by the Douglas Fir Plywood Association, code administrative agency for the subdivision, to be the average of rail rates from all shippers to principal points in each zone. (**) Beyond this point the present investigation did not proceed.

D. F.O.B. Mill Pricing

1. The West Coast Logging and Lumber Division.

The West Coast Logging and Lumber Division included all producers and manufacturers of lumber and lumber products of Douglas fir, West Coast hemlock, Sitka spruce, western red cedar and related species in western Oregon and western Washington (on the western slope of the Cascade Mountains) and Alaska, Shingles, woodwork, veneers, plywood, hardwood flooring and kiln-dried hardwood dimension were specifically excluded from its jurisdiction. (***)

The division included 782 companies operating 1325 mills. As indicated in Part I of this chapter, this region had in the last decade become the country's principal source of supply of softwood lumber, the quantity produced and shipped (of all species) exceeding even the total for southern pine. There are few mills, relative to the output of the industry in this area, and nearly all of these mills are large, efficient, low-cost units; in both of these characteristics the West Coast Logging and Lumber Division contrasted sharply with the Southern Pine Division. A strongly established trade association, the West Coast Lumbermen's Association, was, with the Pacific Northwest Loggers' Association, the code administrative agency on the division.

Prior to Bulletin No. 14 and the establishment of minimum cost protection prices in the division the sale of fir and other West Coast products was typically at delivered prices. In any market, mills quoted prices necessary to meet competition from producers within and without the division. Thus, for example, delivered prices quoted in northern California by rail shippers from southern Oregon and cargo shippers from Oregon and Washington were competitive. Realization (or net yield) at the mill or price f.o.b. mill (where sale happened to be on that basis) varied on shipments to points variously freight rated.

(*) Cf. Schedule A, Section 17, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p. 138.

(**) Cf. Lumber Code Authority Bulletins, Vol. I, Nos. 17, 36, 92, 96, 102, 116, Vol. II, Nos. 26, 34, 54.

(***) Cf. Schedule A, Section 16, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Vol. I, p. 138.

Minimum cost protection prices under the code became effective in this division on November 11, 1933. As promulgated through Lumber Code Authority Bulletins No. 6, 14, and 20 of Volume I these prices were stated to be "f.o.b. or f.a.s., for all domestic markets: rail and water." These three bulletins were issued for Sitka spruce, Douglas fir and West Coast hemlock, and western red cedar respectively. They contained rules and regulations which were in every important respect identical; and amendments to these rules in subsequent bulletins were also the same for all these woods and effective on approximately the same dates.

The same bulletins established the following rules and regulations for the application of the prices.

On all rail shipments to destinations beyond the limits of the division sale was to be at delivered prices not less than the minimum f.o.b. mill prices plus lawful freight rates to destination.(*)

On all water shipments, coastal or intercoastal, to the established minimum prices were to be added the conference water rates applicable, plus all insurance and delivery costs (as per established schedules), and rail freight charges to destinations beyond discharging ports.

On local shipments to points within the division (in western Oregon and western Washington) the minimum prices in effect for water shipments, f.a.s., were to be applicable as delivered prices uniform at all destinations, and sellers were permitted to absorb all delivery costs, including delivery charges to shipside for water shipment. There the buyer provided transportation from the mill, an allowance might be made from the established minimum, not to exceed the transportation cost that the operator would otherwise absorb.

In each of these bulletins there were on a number of items differentials between the f.o.b. mill and f.a.s. prices, in favor of either. Thus, lower minimum prices were established for the green lumber products of rail mills in recognition of the fact that rail rates are based on weight, while water rates are based on measurement, or volume.

Subsequently while cost protection prices were in effect, the division did not find it necessary to alter these rules as originally established in any important respect, except as they applied to shipmates by rail and water to California. Competition between rail-shipped and cargo-shipped fir in northern California had been keen before the code, and it was difficult to arrive at a satisfactory delivered price adjustment between the two in these markets.

(*) Mills on short and connecting lines were permitted to absorb locals and arbitraries over trunk line rates in order to meet competition from mills at main line points. Cf. Minutes of the Resident Committee Lumber Code Authority, November 21, 1933, paragraph 5. (In NRA files Lumber and Timber Products Industries," Code Authority Committee - Resident - Minutes, November, 1933" folder.)

The first three bulletins had required, on all water shipments, intercoastal or coastal (to California), the addition of established conference water rates to f.a.s. minimum prices. On December 19, 1933, the Lumber Code Authority issued Bulletin No. 32, of Volume I, effective December 29, 1933, and entitled "Rule Applicable to Sale of Lumber Produced in West Coast Logging and Lumber Division." This bulletin required, on all sales to the California market at delivered prices, the addition to cost protection prices of, in the case of water transportation, the actual cost thereof, and in the case of rail transportation, the cost based on established tariff rates. The minimum cost protection price f.o.b. seller's mill for shipment by rail to California was in no case to be less than the established minimum price for shipment by water. These regulations, as published in Bulletin No. 32, were incorporated unchanged in the next three bulletins published for the West Coast Division, Nos. 45, 50, and 51, effective January 22, 1934.

Later, on February 24, 1934, the Lumber Code Authority published a bulletin (Volume I, No. 79) entitled "Rules for Common Lumber Shipments from Oregon and Washington to California Cities". This bulletin followed an Administrative Order dated February 19, 1934, granting an appeal from the rules established by Bulletin No. 32. The appeal had been filed by three groups, the Willamette Valley Lumbermen's Association of Oregon, (railshippers), certain cargo-and-rail shippers to California and the California Wholesale Lumber Association. The order canceled Bulletin No. 32 and made effective new rules as recommended by the Research and Planning Division of the National Recovery Administration. (*) These rules were set forth in Bulletin 79 and are substantially as follows:

Delivered prices in northern California (north of Latitude 35N) were to be identical for rail and water shippers (except in the area to which the Oregon Blanket rail rate is 38½¢ per cwt.), and were to be determined:

(a) In the case of water shipments, by the addition (to minimum prices f.a.s.) of an ocean carriage factor set forth in an attached "Schedule A", plus transportation charges from port to final destination as set forth in an attached "Schedule B".

(b) In the case of rail shipments, by the addition to minimum prices f.o.b. mill of actual rail freight, with, however, all shippers under the Oregon Blanket rail rate permitted to absorb any excess freight charges in order to meet lower delivered prices by water; conversely water shippers might absorb to meet lower rail delivered prices.

Prices in the 38½ area were to be determined by the same method, but rail shippers under the Oregon Blanket rate were permitted to absorb only to within $2.00 of the differential, if any, in favor of water delivered prices. There was no provision for absorptions if any were neces-

(*) Cf. "Report on the Appeal by The West Coast Division and Others for Relief from Bulletin No. 32 of the Lumber Code Authority," by Peter A. Stone, Unit Chief, January 30, 1934. (In NRA files, Lumber and Timber Products Industries).

Minimum cost protection prices under the code became effective in this division on November 11, 1933. As promulgated through Lumber Code Authority Bulletins No. 6, 14, and 20 of Volume I these prices were stated to be "f.o.b. or f.a.s., for all domestic markets: rail and water." These three bulletins were issued for Sitka spruce, Douglas fir and West Coast hemlock, and western red cedar respectively. They contained rules and regulations which were in every important respect identical; and amendments to these rules in subsequent bulletins were also the same for all these woods and effective on approximately the same dates.

The same bulletins established the following rules and regulations for the application of the prices.

On all rail shipments to destinations beyond the limits of the division sale was to be at delivered prices not less than the minimum f.o.b. mill prices plus lawful freight rates to destination.(*)

On all water shipments, coastal or intercoastal, to the established minimum prices were to be added the conference water rates applicable, plus all insurance and delivery costs (as per established schedules), and rail freight charges to destinations beyond discharging ports.

On local shipments to points within the division (in western Oregon and western Washington) the minimum prices in effect for water shipments, f.a.s., were to be applicable as delivered prices uniform at all destinations, and sellers were permitted to absorb all delivery costs, including delivery charges to shipside for water shipment. Where the buyer provided transportation from the mill, an allowance might be made from the established minimum, not to exceed the transportation cost that the operator would otherwise absorb.

In each of these bulletins there were on a number of items differentials between the f.o.b. mill and f.a.s. prices, in favor of either. Thus, lower minimum prices were established for the green lumber products of rail mills in recognition of the fact that rail rates are based on weight, while water rates are based on measurement, or volume.

Subsequently while cost protection prices were in effect, the division did not find it necessary to alter these rules as originally established in any important respect, except as they applied to shipmates by rail and water to California. Competition between rail-shipped and cargo-shipped fir in northern California had been keen before the code, and it was difficult to arrive at a satisfactory delivered price adjustment between the two in these markets.

(*) Mills on short and connecting lines were permitted to absorb locals and arbitraries over trunk line rates in order to meet competition from mills at main line points. Cf. Minutes of the Resident Committee Lumber Code Authority, November 21, 1933, paragraph 5. (In NRA files Lumber and Timber Products Industries," Code Authority Committee - Resident - Minutes, November, 1933" folder.)

The first three bulletins had required, on all water shipments, intercoastal or coastal (to California), the addition of established conference water rates to f.a.s. minimum prices. On December 19, 1933, the Lumber Code Authority issued Bulletin No. 32, of Volume I, effective December 29, 1933, and entitled "Rule Applicable to Sale of Lumber Produced in West Coast Logging and Lumber Division." This bulletin required, on all sales to the California market at delivered prices, the addition to cost protection prices of, in the case of water transportation, the actual cost thereof, and in the case of rail transportation, the cost based on established tariff rates. The minimum cost protection price f.o.b. seller's mill for shipment by rail to California was in no case to be less than the established minimum price for shipment by water. These regulations, as published in Bulletin No. 32, were incorporated unchanged in the next three bulletins published for the West Coast Division, Nos. 45, 50, and 51, effective January 22, 1934.

Later, on February 24, 1934, the Lumber Code Authority published a bulletin (Volume I, No. 79) entitled "Rules for Common Lumber Shipments from Oregon and Washington to California Cities". This bulletin followed an Administrative Order dated February 19, 1934, granting an appeal from the rules established by Bulletin No. 32. The appeal had been filed by three groups, the Willamette Valley Lumbermen's Association of Oregon, (railshippers), certain cargo-and-rail shippers to California and the California Wholesale Lumber Association. The order canceled Bulletin No. 32 and made effective new rules as recommended by the Research and Planning Division of the National Recovery Administration. (*) These rules were set forth in Bulletin 79 and are substantially as follows:

Delivered prices in northern California (north of Latitude 35N) were to be identical for rail and water shippers (except in the area to which the Oregon Blanket rail rate is 38½¢ per cwt.), and were to be determined:

(a) In the case of water shipments, by the addition (to minimum prices f.a.s.) of an ocean carriage factor set forth in an attached "Schedule A", plus transportation charges from port to final destination as set forth in an attached "Schedule B".

(b) In the case of rail shipments, by the addition to minimum prices f.o.b. mill of actual rail freight, with, however, all shippers under the Oregon Blanket rail rate permitted to absorb any excess freight charges in order to meet lower delivered prices by water; conversely water shippers might absorb to meet lower rail delivered prices.

Prices in the 38½ area were to be determined by the same method, but rail shippers under the Oregon Blanket rate were permitted to absorb only to within $2.00 of the differential, if any, in favor of water delivered prices. There was no provision for absorptions if any were neces-

(*) Cf. "Report on the Appeal by The West Coast Division and Others for Relief from Bulletin No. 32 of the Lumber Code Authority," by Peter A. Stone, Unit Chief, January 30, 1934. (In NRA files, Lumber and Timber Products Industries).

sary, by water shippers.

Prices for delivery a.s.t. all California ports were to be determined by the addition to f.o.b. mill prices of an ocean carriage factor as in Schedule A.

Schedule A enforced the Pacific Coast Lumber Conference water rate (of $5.00 per M ft.) but permitted absorption up to $1.50 per M feet from points south of the Columbia River on shipments to all California ports, and up to $1.00 per M feet from points on and north of the Columbia River.

Schedule B listed required minimum transportation rates from ship's tackle at California ports to a large number of northern California destinations. Rates to intermediate cities not listed were to be not less than the rates applicable to nearest cities listed beyond.

Bulletin No. 30 of Volume II, issued by the Lumber Code Authority for the fir and hemlock products of the West Coast Division and effective on July 20, 1934, restated rules and regulations with respect to rail and water shipments as in previous bulletins, except that shipments to California were to be subject to Bulletin No. 79. The two bulletins (No. 31 and No. 39) published at the same time for the division's Sitka spruce and western red cedar products did not mention Bulletin No. 79.

These regulations were in effect for the division to the date of suspension of cost protection prices, December 23, 1934.

Under the code the equalization of delivered prices was as necessary for this division as it was for other major divisions and for the same fundamental reasons. But the problem was, for most markets, readily solved. This was true primarily because the rail rate structure for members of the division, with mills ranged up and down the coast of Oregon and Washington, is blanketed, so that wherever located, they ship to midwestern and eastern markets on a freight rate parity. Rail rates are also blanketed for shipments of lumber from Oregon to California, the third principal domestic market for west coast woods; since fir is not shipped by rail to California from points north of Portland the mills supplying this market also enjoy identical rail rates. This blanketing of rates automatically accomplished equalization when freight was added to weighted average cost protection prices f.o.b. mill. A second reason is that established Conference water rates are identical for all mills, on shipments coastwise (to California) and intercoastal alike; the application of these rates was required by the regulations not only on shipments by common carriers (where they were already in effect) but also on traffic by company-owned vessels.

This left the division with only one really serious problem of equalization under the code: the adjustment of delivered prices quoted upon rail-shipped lumber on the one hand and cargo-shipped lumber on the other on northern California markets.

Two large groups of West Coast mills supply the California market: first, cargo shippers with mills on the Oregon and Washington coast, on

the Columbia River; there are more than 125 such mills, most of which ship by common carrier, some of which own their own ships; second, rail shippers, in the interior of western Oregon from Portland south, particularly in the Willamette Valley (where there are about 180 mills); these mills market a large part of their production in California.

Under Bulletin No. 14 the water shippers who sold strictly in accordance with its provisions were excluded from the northern California market except at the port of Oakland, Stockton, Modesta and (on a limited number of items), Bakersfield, for the reason that at all other points minimum delivered prices on cargo shipments, calculated on the basis of the $5.00 per M ft. Pacific Coast Lumber Conference freight rate plus rail freight to final destination, were in excess of the rail delivered prices on the basis of the Oregon blanket rates. (*) Because of this disparity the Administrator (on the appeal of a prominent cargo shipper) ordered issuance of Bulletin No. 32.

The latter bulletin, however, only shifted the disadvantage to the rail shippers. These Oregon mills were still required to add published rail rates to destination, but water shipments might be sold at delivered prices including the actual cost of the water transportation, with no provision whatever for freight beyond discharging port. This cost, on shipments in company-owned vessels or contract carriers, might be anything which the operator's accounting records showed, and was subject to wide variation between shippers. Delivered prices on water shipments in northern California were not only unstable but also were lower than rail delivered prices on a majority of items at all but a few destinations. The rail mills were further handicapped by the rule that prices f.o.b. mill for shipment by rail be in no case less than the minimum prices for shipment by water; this rule eliminated necessary differentials on green lumber, which many rail mills without drying facilities shipped to the northern California market. As a result of these regulations rail shippers were in large part excluded from markets upon which they depended for much of their total volume. (**)

(*) Not all water shippers, however, were disadvantaged. More than half the members of the Pacific Coast Lumber Conference were wholesalers who were able to equalize to the extent of absorbing the discount allowed to wholesalers under the code.

(**) The interest of these rail shippers in the northern California lumber market had been recognized and strengthened by the preferential treatment which they had long enjoyed in the upper Sacramento Valley; the Oregon blanket (extending from Glendale, near the southern boundary of Oregon, to Portland) rail rate to California destinations as far south as Stockton was 24¢ per cwt.; at that point the rate increased by 2½, and was 30½¢ per cwt. to Modesta, just south of Stockton. Stockton is almost directly east of Oakland, the Oregon blanket rail rate to which at this time was 28½¢ per cwt.

It is clear that Bulletin No. 32 also handicapped cargo shippers who, lacking their own shipping facilities, found it necessary to ship by common carriers charging the Conference rate of $5.00 per M ft. to California ports.

The problem was finally solved by adoption of the compromise regulations recommended by the Division of Research and Planning of the National Recovery Administration and made effective in Bulletin No. 79. These regulations were agreed upon by representatives of the interests involved, the cargo and rail shippers. They authorized complete delivered price equalization in northern California markets except in the "28½¢ area" (all points to which the Oregon blanket rate was 28½¢ per cwt.), representing territory adjacent to discharging ports. In this territory, the rail mills were permitted to absorb only to within $3.00 the lower water delivered price, thus were excluded from it, but rail mills had not previously shared in these markets, so that no maladjustment was created.

The stabilization of freight rates and charges which proved vital in all divisions of the industry was accomplished by the same bulletin: the Conference rates again became the minima for coastwise movement, and a schedule of minimum rates to destination from discharging ports was put into effect. However, water delivered prices were lower than previously because absorption (to a maximum of $1.50 per M. ft.) was permitted and the minimum rates from port to destination were substantially lower than rail rates. Mills on the Columbia River and north were put at a disadvantage by being restricted to a maximum absorption of $1.00 per M. ft. (out of the Conference rate). (*)

The regulations incorporated in Bulletin No. 79 proved practicable; by making possible complete delivered price equalization they avoided injuring any of the divisional interests involved. No subsequent changes were necessary.

There was no such difficult problem of delivered price equalization with respect to equalization of rail-shipped and cargo-shipped fir to central and eastern markets, since rail-shipped fir already dominated Central Freight Association Territory and cargo-shipped fir Eastern Trunk Line Territory with little mutual interference. Here there was no reason to disturb the status quo.

(*) Reference is made upon all points covered in this discussion of the problem of price equalization in California markets, first, to the "Report On The Appeal By The West Coast Division And Others For Relief From Bulletin No. 32 Of the Lumber Code Authority," by Peter A. Stone, Research and Planning Division, National Recovery Administration, January 30, 1934, and, second, to "An Analysis Of The Price Discrimination Under Lumber Code Authority Bulletins No. 14 and No. 32", by Y. S. Leong, also of the Research and Planning Division. (Both in NRA files, Lumber and Timber Products Industries, "Prices - Transportation - Waterways - West Coast Logging and Lumber Division" folder.)

2. The Northeastern Softwood Division.

All producers and manufacturers of lumber and timber products of hemlock, spruce, white pine and other softwood species in the New England states, New York, Pennsylvania, New Jersey and West Virginia were numbers of this division. Products specifically excluded from its jurisdiction were poles and piling, planing-mill products, woodwork, hardwood flooring, veneers, plywood and kiln-dried hardwood dimension. (*)

There were about 3500 operators in this division and in the Northeastern Hardwood Subdivision combined. Nearly all of these are small mills.

The pre-code experience of softwood producers in the northeast with the pricing of lumber, shipped to principal markets, in north Atlantic States, did not differ in any important respect from that of mills in other softwood producing areas. Sale was at delivered prices; these prices were not calculated from any basing point, nor were they zoned or otherwise systematized with respect to freight costs. On the contrary, price at any destination was the product of the vigorous interplay of competition between softwood producers not only in the northeast but (to a much greater extent) in the south, north central states and on the west coast, shipping by rail and water to the bitterly contested markets in the north Atlantic states.

The northeastern region supplied (in recent years) so small a proportion of the total supply of softwoods that the prices of its products followed prices established by other, more important sources of supply (as the west coast and the south); the costs and competition of its own operators were a minor factor.

At the inception of cost protection prices under the code, products of the Northeastern Softwood Division were required (under regulations published in Lumber Code Authority Bulletin No. 22 of Volume I, and effective November 16, 1933) to be sold at delivered prices. Minimum prices f.o.b. mill were established; to these were to be added freight from the mill to destination, except that on shipments to destinations to which the rail rate was in excess of 20¢ per cwt., sellers were permitted to absorb not to exceed 10¢ per cwt., the minimum rate (net of absorption) to be, however, 20¢ on such shipments. It will be noted that these rules for the application of the minimum prices exactly conformed to those in effect for northeastern hardwoods under Bulletin No. 9 of Volume I. (**) Trucking freight rates were to be figured on the basis of 22½% of first class rail rates; wherever possible, the actual commodity established freight rate was to prevail.

There were also regulations governing the sale of softwood products imported into the division (from outside the United States). These were to be sold at not less than the f.o.b. mill minima at the point of entry for similar domestic species, plus a minimum rate of freight of 20¢ per cwt., with absorption of freight permitted as in the sale of

(**) Cf. Part III, Section D, 3 of this chapter.

(*). Cf. Schedule A, Section 13, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Vol. I, p. 137.

domestic softwoods.

Subsequent price bulletins issued by the Authority in behalf of the division did not alter these rules for delivered pricing until the publication of Bulletin No. 9 (Volume II), effective July 20, 1934, which substituted 23¢ for 20¢ per cwt. as the rate beneath which absorption might not take place and the minimum rate of freight upon softwoods imported into the division.

Suspension of the cost protection prices by Administrative Order 9-297 on December 22, 1934, was accompanied by abandonment of these purely artificial absorption limits and minimum freight charges.

3. The Northeastern Hardwood Subdivision

The subdivision of the Hardwood Division comprised all producers and manufacturers of hardwood lumber and timber products of birch, beech, maple, ash, elm, basswood, oak and related species in the New England States, New York, Pennsylvania and New Jersey (except for West Virginia, exactly conforming to the definition of the Northeastern Softwood Division). All products enumerated in the definition of the code (see Article II, A) were under its jurisdiction except poles and piling, planing mill products, woodwork, hardwood flooring, veneers, plywood and kiln-dried hardwood dimension. (*)

Hardwoods produced in this region were sold before the code at delivered prices, which bore no relation to freight from any basing point or to zone average freight costs. Prices were rather the result of active inter-regional competition, dominated by sources of supply in the south and in Appalachian territory.

Under the code, sale at delivered prices was required of members of the subdivision under conditions set forth in the first price bulletin issued by the Lumber Code Authority in its behalf (Volume I, No. 9, effective November 10, 1933). Delivered prices were to be not less than minimum prices f.o.b. mill as set forth in the bulletin plus freight from mill to destination, except that where the freight rate was in excess of 20¢ per cwt., the seller was permitted to absorb up to 10¢ per cwt., in no case was the absorption to reduce the rate to less than 20¢. Mills not on rail heads were allowed to absorb up to the nearest rail head. Trucking freight rates were to be figured at 22⅔% of first class rail rates, with, wherever possible, the actual commodity established freight rate prevailing.

Hardwoods imported into the territory of the subdivision by rail or inland waterway were to be sold at not less than the f.o.b. mill prices for the same domestic species, grade and item at point of entry, plus at least 20¢ per cwt. in freight (and the actual rate if above 20¢). Hardwoods imported by ocean shipment were to be sold at not less than the minimum prices f.o.b. mill for the same domestic species, grade and item plus the actual rail rate from Island Pond,

(*) Cf. Schedule A, Section 9, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p.136.

Vermont (*), to destination, the addition to be not less than 20¢ per cwt.

Later bulletins (the last appearing November 22, 1934) made no significant changes in these rules for delivered pricing, save that Bulletin No. 108 of Volume I, effective May 17, 1934, permitted sellers of hardwoods imported by rail or inland waterway to absorb freight up to 10¢ per cwt. where the rate from point of entry to destination exceeded 20¢; the latter figure was, however, the minimum rate. These rules continued in effect until December 22, 1934, the date of abrogation of minimum prices.

At the same time the freight absorption maxima and the minimum freight rates, essentially a part of the cost protection price structure, were abandoned.

4. The Philippine Mahogany Subdivision

This was a subdivision of the Hardwood Division which included manufacturers of lumber and timber products of Philippine mahogany and other Philippine hardwoods, persons exclusively representing in the United States these manufacturers, and all importers of their logs, lumber and lumber products. (**) Persons under the jurisdiction of the subdivision totaled 36.

Philippine mahogany and other hardwoods were sold in the United States before the code at delivered prices. No basic points were used, nor were there uniform delivered prices as in the mahogany industry, or any form of price zoning.

With the publication by the Lumber Code Authority of the subdivision's first price bulletin, Volume I, No. 11, effective November 10, 1933, minimum prices were established for Philippine mahogany and hardwoods f.o.b. cars, Pacific ports, with sale in domestic markets to be at delivered prices not less than these prices "f.o.b. mill" (cars) plus inland freight to destination beyond port. If shipped to Atlantic and Gulf ports and thence inland $6.00 per thousand feet (on 44 size) (***) was to be added to the f.o.b. cars minima before addition of inland freight from port to destination.

(*) The method of, or reasons for, the selection of this quasi-basing point are not known.

(**) Cf. Schedule A, Section 5, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p. 135.

(***) This was the basic rate; rates on other sizes ranged about it.

NOTE: Cf. Part III, Section D, 2, of this chapter, the section on the Northeastern Softwood Division.

Subsequent bulletins made no revisions in these rules for delivered pricing and they remained in effect until the date of Administrative Order No. 9-297, December 22, 1934. The practice of the industry since that date appears to have reverted to the pre-code condition of irregular delivered pricing.

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5. Red Cedar Shingle Division

Producers and manufacturers of western red cedar shingles in Washington, Oregon, Idaho and the Territory of Alaska were included in this division. (*) Production of this type of shingle is concentrated in these states and in the Territory, where there are but two mills. There are no operations in other states. Total number of companies in the industry is 245, of mills, 273. Nothing is known of the pre-code or pre-code practice of the industry with respect to delivered or f.o.b. mill pricing. Although the Stained Shingle Subdivision was later (**) to establish a single basing point at Seattle (Bulletin No. 59 Volume I), the Red Cedar Shingle Division, with the publication of Lumber Code Authority Bulletin No. 15 (Volume I), set minimum prices f.o.b. mill and required the addition of established freight rates from origin to destination on all shipments beyond the limits of the division "in western Oregon and western Washington". These rules and prices were effective November 13, 1933; delivered prices only were to be quoted.

Freight added was to be at established rail rates upon rail shipments, and at conference water rates, plus insurance and all other delivery costs incident thereto and freight at rail rates to destination beyond discharging port, on water shipments, coastal or intercoastal.

Local shipments (within the division) were, however, to be at the minimum prices, without addition of freight (that is, with full freight allowed), whatever the destination. Absorption by the seller of delivery costs to any point within the division in western Washington and western Oregon (***) was authorized. Where the buyer provided transportation from the mill, allowance therefor might be made from the minimum price at not more than the transportation cost which would otherwise be absorbed in making delivery at the destination in question.

A subsequent bulletin (Volume I, No. 68) effective March 2, 1934, continued the regulations in effect for shipments beyond divisional territory (as then constituted) but changed the basis for pricing local shipments. On the latter, the prices established were thenceforth to apply

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(*) Cf. Schedule A, Section 31, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume I, p. 142.

(**) Cf. Part III, Section A, 13, of this Chapter.

(***) Idaho was not brought under the jurisdiction of the division until April 13, 1934 with the approval of Amendment No. 8 to the Code for Lumber and Timber Products Industries. (Code of Fair Competition Volume IX, p. 717). There were only a few mills in this state. Alaska was not added until January 8, 1935, with the approval of Amendment No. 27 (Codes of Fair Competition, Volume XX, page 179); this was after the suspension of cost protection prices. There were only two mills in the Territory.

as f.o.b. mill mimina, except that absorption of delivery costs to any point less distant than 40 miles from the point of shipment or to ship's side on water shipment from any point in the division was authorized. Where a mill was not located on a railroad, the prices were to apply as minima f.o.b. its nearest or "usual" loading point.

These intra-divisional zones of 40 miles about each mill were extended, effective July 20, 1934 (Bulletin No. 10 of Volume 11) with absorption of delivery costs on local shipments permitted to any point less than 75 miles from the mill for delivery by truck, or from the nearest railroad loading point for delivery by rail. Divisional territory at this time included Idaho.

No other revisions were effected by this or subsequent bulletins. F.o.b. mill pricing (modified for shipments within the division as described) was in effect until the suspension of cost protection prices on December 22, 1934.

It has not been possible to investigate the experience of this branch of the lumber industry with f.o.b. mill pricing under the code. Certain factors tending to make the maintenance of minimum prices possible in the division without provision for delivered prices equalization are known without investigation; there are, first, the blanketed rail rate structure in effect for the producers, shipping from Washington and Oregon points to principal markets in the east and in California at no great disparity in freight rates. (In this respect the situation paralleled that of the West Coast Logging and Lumber Division (*); second, the relative importance of quality and trade reputation considerations in the marketing of the product.

6. The Broom and Mop Handle Division

Manufacturers of broom, mop, sweeper and sweeping brush handles were brought together in this division on December 7, 1933, under an amendment to the code. (**) They numbered thirty-five, operating 39 factories. With its first price bulletin, (Lumber Code Authority Bulletin No. 58, Volume I), effective February 6, 1934, the division established minimum prices f.o.b. mill with no provision for delivered price equalization or freight absorption of any type. These prices were subsequently revised, but the rules and regulations remain unchanged. Members of the division continued to sell their products f.o.b. mill, until the suspension of cost protection prices.

The literal application of these regulations must have meant unequal delivered prices at destinations for mills variously located freightwise from those destinations. To what extent this proved practicable in the industry and, if so, for what reasons, has not been determined by this study. Because the product is standardized and of low value per unit of weight and measurement, it appears unlikely that quality considerations would outweigh differences in delivered prices caused by a disparity of

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(*) Cf. Part III, Section D,1 of this Chapter.

(**) Cf. Schedule A, Section 37, Code for the Lumber and Timber Products Industries, Codes of Fair Competition, Volume IV, p. 636.

IV. CONCLUSIONS

The conclusions presented in this fourth part of the chapter on the Lumber and Timber Products Industries will be few and tentative. This is in recognition of the broad scope of the problems and practices with which the present study has been concerned, and the fact that it has been impossible, because of distinct limitations of time and personnel, to make more than a preliminary survey of these problems and practices.

In the administration of cost protection prices under the lumber code, the code administrative agencies in a majority of the divisions and subdivisions established basing points, delivered price zones and other devices for the systematic equalization of prices delivered at destination. This was undoubtedly essential, under the circumstances, if the minimum cost protection prices were to be maintained. But it was not specifically authorized by the Code for the Lumber and Timber Products Industries.

The basing point and zoning regulations in each division were devised by the code administrative agency for the division, and although they came before the Lumber Code Authority for approval, it is clear from the minutes of the meetings of the Authority and from the reports presented to it by its Costs and Prices Committee that it was not the policy of the Authority to disapprove any equalization system or set of pricing regulations unless it was found to interfere with the inter-divisional coordination of prices. In other words, the plans prepared and adopted by the divisional agencies were not subject to critical examination by the central code authority.

Moreover, the National Recovery Administration neglected either to review the pricing regulations or to investigate their effect upon cost protection prices. Although it attempted to check the cost data upon which the determination of minimum prices in each division was supposed to have been based, and the importance of this check was repeatedly emphasized, the methods by which delivered price equalization was effected were (except in a few sporadic instances where the attention of a research economist was called to a particular case) wholly disregarded. This was of the utmost importance, because the basing points, delivered price zones and other systems utilized by the industry clearly might have had the effect of circumventing the established minimum prices completely, so that the net return at the mill received by any group within the industry might either greatly exceed or greatly fall short of the minima. Thus it was possible for a branch of the lumber industry to take advantage of the control of prices either to charge exorbitant prices and obtain an excessive net income, or, on the other hand, (and this was much more likely in view of the depressed condition of the industry) to cut the prices of its products below cost and thereby obtain a decisive advantage in competition with other species or producing areas. The minimum prices f.o.b. mill established were of little significance in themselves; of primary importance was the overall effect upon those prices of the pricing regulations adopted, as evidenced by the average net yield or realization received by members of a division at the mill.

For this reason, a review of cost substantiation data and the cost protection prices established f.o.b. mill was futile without simultaneous review of the accompanying pricing practices.

The primary test of the soundness of any divisional delivered price equalization system was the extent to which it maintained the weighted average cost protection prices; that is, the extent to which it produced an average net yield for all operators in the division equivalent to the weighted average costs. We are not here concerned with the advisability of setting minimum prices in the lumber industries or generally; but if such prices were to be established, on the basis of a determination of average costs of operation according to a specific formula, it is clearly of first importance that no regulations supplementary to the establishment of the price minima be permitted to nullify or alter those minima.

If this test had been applied in the administration of cost protection prices under the lumber code, either by the National Recovery Administration or by the Lumber Code Authority, there would have been involved, necessarily, first, an initial investigation, on the basis of such data as might be available, to determine for each division the average cost of transportation of the products supplied each market area, from all the sources upon which the particular area had previously drawn; second, the current collection of data showing for all the members of each division the total freight charges paid the carriers and the total freight included in the delivered price of every shipment. Failure to do either constituted a serious lack in the administration of the code.

It does not follow that the equalization systems developed by the various divisional code administrative agencies were necessarily unsound. Even without the data described, it appears to have been possible for divisions which had the services of the expert traffic staffs maintained by certain trade associations to devise, on the basis of an intimate knowledge of the rail rate structure and the direction of the movement of the lumber, systems which were practicable and probably achieved a rough equilibrium between the total of freight charges and the total freight element in delivered prices. But in no instance was the availability of expert tariff advice a guarantee of this, and the outcome was uncertain.

Complete equalization of delivered prices in the lumber industry under the code was not apt to injure the interests of any group, geographic or otherwise, since the industry before the code had equalized such prices through competition. However, where there was an attempt to use the pricing regulations to control the sources of supply for particular consuming areas by preventing equalization by mills located at a certain distance from those areas, it was also of great importance that the action of the divisional code administrative agency be subject to careful review by some higher, less interested body in the code authority, and also by an agency of government. Although this practice was attempted in only a few instances (and there not very effectively) under the lumber code, the provisions limiting absorption of freight which were utilized for the purpose were not so scrutinized, either by the Lumber Code Authority or by the Administration.

A critical examination of the soundness of the practices adopted from

an economic point of view may be said to reach an impasse. Data respecting prices, shipments and consumption during the code period were the product of such a complexity of influences and of so many other artificial forces (such as controlled production) that it is largely impossible to trace the effect of the delivered pricing regulations in reducing or stimulating cross-hauling or in securing a more or less economical distribution of lumber products of the various species and producing regions in domestic markets.

It is clear, however, that in the establishment of the basing point, price zoning and other systems the divisional agencies took extreme care to do nothing which might deprive any group of producers, however distantly located with respect to a given market, from the share in that market which they had previously enjoyed. If there was one underlying, general policy in all divisions it was that the status quo must not be disturbed. Under the circumstances, this was (as indicated in previous sections of the chapter) a practical necessity. Any alienation of the support of important groups of producers would have resulted in a breakdown of minimum prices. The policy did mean, however, that cross-hauling, extensive before the code, would not under the code be impeded.

Had the enforcement of the cost protection prices been stronger and more effective, it probably would have been possible to utilize the equalization systems for the gradual reduction of cross-hauling. This might have been accomplished by the setting of absorption maxima (or limitations upon the absorption of freight) which, while not necessitating sudden, major readjustments in markets and sources of supply, would have eliminated from time to time what may be called the fringe of the marginal shippers or uneconomic, long-haul sources of supply. In order to do this, it would have been necessary to begin with relatively liberal absorption maxima, reducing the limits from time to time as each readjustment appeared to have been completed and stabilized.

No program of this kind should under any circumstances be attempted until a thorough investigation of the problem of geographic pricing practice in the particular branch of the lumber industry concerned had been made. Such an investigation probably would embrace:

1. An exhaustive study of the rail freight rate structure in effect for the products of the various species and producing areas, because it is quite impossible to approach the problem intelligently without this knowledge: anything that may be done is conditioned by the rate structure. Along with this there should be an inquiry into rates in effect for and quantities shipped or capable of shipment by other transportation media, water or automotive.

2. The collection of data as to consumption of the products of each species in each market area, the quantity supplied it (the market) by each producing area, and the freight charges paid in transporting that quantity. In order

to do this it would be necessary to define exactly the market and producing areas (the latter term is not used to mean the entire area supplying one species, as southern pine, but rather as restricted as possible a district within the comprehensive producing territory); this, again, can probably be most simply and satisfactorily accomplished on the basis of the rail rate structure and existing rate differentials.

It is essential that more complete information be obtained as to the character of lumber markets and lumber demand.

3. If this data was available it would be possible to attempt to measure the extent and cost of cross-hauling in the industry. Such a study would not however, proceed on the assumption that uneconomic cross-hauling is involved wherever a market is supplied with one product or species from one source when it could, at lower actual cost (not necessarily price), obtain a comparable product or species from another source. The precise uses of particular products and species as the buying habits of consumers must be understood, since it may, in fact, be impossible to substitute one species, product, grade or even size (*) for another, however comparable it may seem. Any survey of the extent of cross-hauling which fails to take such uses and buying habits into account cannot possibly be accurate.

Finally, it is of no little importance that even before the code four divisions of the lumber industry had been able to achieve systematic delivered price equalization through the use of basing points (in the case of the two flooring industries) and delivered price zones (in the walnut and mahogany industries, the latter using only one zone). In each of these industries the objective was the attainment of relative price stability and the means the activity of a strong trade association in the collection and dissemination of price data. In each of these industries (with the possible exception of the oak flooring industry, the Memphis basing point of which was not so strongly established or in such general use) the objective of price stability seems to have been attained, relative to the price experience of other branches of the lumber industry. There is as yet no evidence to indicate whether this result was accomplished at the expense of exhorbitant, excessive prices.

The problems of the price structure are of particular importance in

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(*) Cf. The section on the Oak Flooring Division in Part III of this chapter.

an industry the product of which is obtained from a basic, essential natural resource such as timber, because price maladjustments may mean the despoliation and wasteful conversion of the resource. Information acquired in the course of the present study would indicate that the presence in a division of a large number of irresponsibly managed small mills, producing a large proportion of total output, is an element tending to accentuate instability of prices. A thorough investigation of the economic structure and characteristics of the four lumber industries in which basing points and uniform delivered pricing are maintained should be undertaken, particularly as they relate to the price reporting activity of the trade associations; and an attempt made to relate their problems and characteristics to those of other branches of the industry.

EXHIBIT A

INDEX OF PRICE BULLETINS

I. LOGGING AND LUMBER DIVISIONS

A. SOFTWOOD

1. WEST COAST LOGGING AND LUMBER DIVISION

(a) Douglas Fir, West Coast Hemlock and White Fir - Volume I, Nos. 14, 45, 94, 132 - Volume II, Nos. 30, 48.

(b) Sitka Spruce - Volume I, Nos. 6, 50; Volume II, Nos. 31.

(c) Western Red Cedar - Volume I, Nos. 20, 51; Volume II, Nos. 39, 49.

(d) Douglas Fir and West Coast Hemlock Sawn Cross Ties - Volume I, No. 104.

(e) Rules for Common Lumber Shipments From Oregon and Washington to California Cities - Volume I, Nos. 32, 79.

2. SOUTHERN PINE DIVISION

(a) Volume I, Nos. 5, 34, 82, 101, 107; Volume II, Nos, 8, 56.

2a. SOUTHERN ROTARY CUT PINE SUBDIVISION

(a) Volume I, Nos. 25, 53, 85; Volume II, Nos. 13, 66.

3. WESTERN PINE DIVISION

(a) Volume I, Nos. 18, 33, 111; Volume II, Nos. 24.

4. REDWOOD DIVISION

(a) Volume I, Nos. 28, 42, 112, 133; Volume II, Nos. 6, 7.

(b) Redwood Split Products - Volume I, Nos. 76, 106; Volume II, No. 12.

5. CYPRESS DIVISION

(a) Volume I, Nos. 19, 77; Volume II, Nos. 5, 52.

6. NORTHERN PINE DIVISION

(a) Volume I, Nos. 21, 37; Volume II, Nos. 3, 60.

7. NORTHERN HEMLOCK DIVISION

(a) Volume I, Nos. 7, 39, 71; Volume II, Nos. 4, 23, 58, 64.

8. NORTHEASTERN SOFTWOOD DIVISION

(a) Volume I, Nos. 22, 38, 109; Volume II, Nos. 9.

B. HARDWOOD

1. APPALACHIAN AND SOUTHERN HARDWOOD SUBDIVISION

(a) Volume I, Nos. 10,41, 86, 110; Volume II, 27A, 27S, 37, 68A, 68S.

2. NORTH CENTRAL HARDWOOD SUBDIVISION

(a) Volume I, Nos. 13, 44, 63; Volume II, Nos. 27, 70.

3. NORTHERN HARDWOOD SUBDIVISION

(a) Volume I, Nos. 8, 40, 55; Volume II, Nos. 17, 69.

4. NORTHEASTERN HARDWOOD SUBDIVISION

(a) Volume I. Nos. 9, 38, 108; Volume II, Nos. 16, 71.

5. WALNUT SUBDIVISION

(a) Volume I, Nos. 27, 48; Volume II, No. 36.

6. MAHOGANY SUBDIVISION

(a) Volume I, Nos. 12, 65; Volume II, Nos. 41.

7. PHILIPPINE MAHOGANY SUBDIVISION

(a) Volume I, Nos. 11; Volume II, Nos. 14, 64.

II. FLOORING DIVISIONS

A. MAPLE BEECH AND BIRCH FLOORING

(a) Volume I, Nos. 4, 80, 105; Volume II, Nos. 15.

B. OAK FLOORING

(a) Volume I, No. 4, 52, 89, 127; Volume II, Nos. 40, 64.

(b) Cedar Closet Lining Products - Volume II, No. 28.

III. FABRICATING DIVISIONS

A. WOODWORK

1. STOCK MANUFACTURERS' SUBDIVISION

(a) Volume I, Nos. 23, 46, 69, 87, 97; Volume II, No. 35.

(b) Stock Screen Products - Volume I, Nos. 26, 54, 70; Volume II, No. 32.

2. SPECIAL WOODWORK SUBDIVISION

(a) Volume I, Nos. 24, 47, 75; Volume II, No. 33.

3. DOUGLAS FIR DOOR SUBDIVISION (West Coast Logging and Lumber Division)

(a) Volume I, Nos. 16, 35, 90, 91, 129; Volume II, Nos. 22, 25, 37, 59.

B. WOODEN PACKAGE

1. SAWED BOX, SHOOK, CRATE AND TRAY SUBDIVISION

(a) Volume I. Nos. 64, 72, 98, 114; Volume II, Nos. 46, 47.

2. EGG CASE SUBDIVISION

(a) Volume I, Nos. 68; Volume II, Nos. 42, 53.

3. PLYWOOD PACKAGE SUBDIVISION

(a) Volume I, No. 60; Volume II, No. 21.

4. WIREBOUND BOX SUBDIVISION

(a) Volume I, Nos 61, 93; Volume II, Nos. 44, 61.

5. AMERICAN VENEER PACKAGE SUBDIVISION

(a) Volume I, Nos. 73, 83, 130, 131; Volume II, Nos. 42, 53.

6. PACIFIC VENEER PACKAGE SUBDIVISION

(a) Volume I, Nos. 67, 115; Volume II, Nos. 43.

7. STANDARD CONTAINER SUBDIVISION

(a) Volume I, Nos. 74; Volume II, Nos. 42, 53.

8. WOODEN PAIL AND TUB SUBDIVISION

(No prices established)

C. VENEER AND PLYWOOD

1. PLYWOOD SUBDIVISION

(a) Hardwood - Volume I, Nos. 3, 43, 56; Volume II, No. 20.

2. COMMERCIAL VENEER SUBDIVISION

(a) Volume I, Nos. 3, 52, 57; Volume II, No. 38.

3. FACE VENEER SUBDIVISION

(No prices established)

4. DOUGLAS FIR PLYWOOD SUBDIVISION (West Coast Logging and Lumber Division)

(a) Volume I, Nos. 17, 36, 42, 96, 102, 116; Volume II, Nos. 26, 34, 54.

D. OTHER

1. RED CEDAR SHINGLE DIVISION

(a) Volume I, Nos. 15, 68; Volume II, Nos. 10, 61.

1a. STAINED SHINGLE SUBDIVISION

(a) Volume I, Nos. 59, 81; Volume II, Nos. 11.

2. BROOM AND HOP HANDLE DIVISION

(a) Volume I, No. 58; Volume II, No. 19.

EXHIBIT B

DEFINITION OF PRODUCING AND CONSUMING
ZONES AND TERRITORIES

I. SOUTHERN PINE DIVISION

DEFINITIONS OF ORIGIN AND DESTINATION TERRITORIES (*)

The following definitions evolved for code administration purposes govern, though not in exact accord with such territories as defined by railroads:

A. EASTERN TRUNK LINE AND NEW ENGLAND FREIGHT ASSOCIATION TERRITORIES:

All stations in the following states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont and West Virginia; Virginia on and north of the Norfolk and Western Railroad to the West Virginia state line, through Suffolk, Petersburg, Lynchburg and Roanoke, plus certain stations in Eastern Ohio and intermediate points.

B. CENTRAL FREIGHT ASSOCIATION TERRITORY:

All stations in following states: Illinois, Indiana, Michigan (except that part west and north of Lake Michigan) and Ohio, except stations in Ohio included under A and intermediate points.

C. WESTERN TRUNK LINE TERRITORY:

All stations in following states: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Wisconsin, and Michigan west and north of Lake Michigan.

D. EASTERN ALABAMA ORIGIN GROUP:

All of Alabama within line drawn immediately east of the L. and N. Railroad beginning at Highnote, northward, passing east of Georgianna, Montgomery, Sylacauga, Talladega to Wellington; thence north of the L. and N. Railroad to Attalla, thence east of the A.G.S. Railroad to, but not including, Battelle.

E. EAST AND WEST FLORIDA ORIGIN GROUPS:

All stations in Florida west (including west bank points) of the Apalachicola River constitute West Florida origin group.

All stations east of this river, including the peninsula, are East Florida origin group.

(*) Cf. Lumber Code Authority Bulletin, Volume I, No. 107. May 8, 1934 (effective May 18, 1934).

F. SOUTHWESTERN AND SOUTHERN FREIGHT ASSOCIATION TERRITORIES:

All stations in: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, Oklahoma, South Carolina, Tennessee, Texas; Virginia south of, but not including, Norfolk and Southern Railroad points (north and south routes via Cape Henry and Virginia Beach), and south of, but not including, points on the N. and W. Railroad to the West Virginia state line.

G. SOUTHWESTERN YELLOW PINE BLANKET:

1) Louisiana, west of Mississippi River.
2) Arkansas, south of Arkansas River.
3) East Texas, on and east of Gulf, Colorado and Sante Fe Railroad from Galveston to Houston; on and east of Houston and Texas Central Railroad from Houston to Eunis; east of Texas Midland Railroad from Eunis to Paris; east of Paris and Great Northern Railroad from Paris to northern boundary of Texas.
4) Oklahoma, on and east of the St. Louis and Santa Fe Railway from Southern boundary of Oklahoma near Paris, Texas, to the boundary near Fort Smith, Arkansas.

II SOUTHERN ROTARY CUT LUMBER SUBDIVISION(*)

DESCRIPTION OF ZONING SYSTEM

Geographical Zones, stating amount of freight to be added to f.o.b. mill prices on veneer to make delivered price to each zone from mills located only in the jurisdiction of the Southern Rotary Cut Lumber Subdivision.

ZONE 1 - Add $3.00 per M board feet to f.o.b. mill price. Includes Texas, Louisiana, Mississippi, Arkansas, Georgia, Florida and Carolinas.

ZONE 2 - Add $8.00 to f.o.b. mill price. Includes Oklahoma, Tennessee, and Kentucky west of the Tennessee River.

ZONE 3 - Add $10.00 to f.o.b. mill price. Includes Missouri east of north and south line through Mexico, Missouri; Illinois, south of east and west line through Effingham; Indiana, south of east and west line through Bloomington; Ohio, south of east and west line through Hamilton and west of Waverly; Kentucky east of the Tennessee River.

ZONE 4 - Add $11.00 to f.o.b. mill price. Includes Missouri (part not included in Zone 3), and Kansas City, Kansas.

ZONE 5 - Add $14.00 to f.o.b. mill price. Includes Kansas (except Kansas City), Minnesota, Nebraska, Iowa, Wisconsin and Michigan.

ZONE 6 - Add $14.00 to f.o.b. mill price. Includes Pennsylvania,

(*) Cf. Lumber Code Authority Bulletin, Volume II, No. 13, July 20, 1934. (Effective, July 20, 1934).

New York, Rhode Island, New Jersey, Delaware and all states east and north of them.

ZONE 7 - Add $13.00 to mill price. Includes Illinois, Indiana and Ohio (parts not included in Zone 3).

ZONE 8 - Add $12.00 to f.o.b. mill price. Includes Virginia and Maryland.

ZONE 9 - Add $13.00 to f.o.b. mill price. Includes West Virginia.

CHANGES IN THE ZONING SYSTEM (*)

1. ZONE 1 - A (This zone is added) Add $2.50 to f.o.b. mill price. This includes the city of New Orleans and a radius of five miles from its present corporate limits. (This territory removed from Zone 1.)

2. ZONE 2 - This zone is expanded to include Missouri, east of north and south line through Mexico, Missouri, (formerly in Zone 3), and East St. Louis, Illinois.

3. ZONE 3 - The addition to mill price reduced from $10.00 to $8.00. Missouri east of the line through Mexico, and East St. Louis have been transferred to Zone 2.

4. ZONE 4 - Includes Michigan west and north of Lake Michigan, in place of the entire state.

5. ZONE 7 - Addition to mill price reduced from $13.00 to $12.00.

6. ZONE 8 - This zone is restricted to Virginia and the Addition reduced from $12.00 to $9.00.

7. ZONE 9 - Maryland is transferred from Zone 8 to this Zone. The addition is reduced from $13.00 to $10.00.

8. ZONE 10 - This zone is created, including Michigan east of Lake Michigan, with an addition of $13.00 to the mill price.

9. On shipments into Zones 1 and 1A, where actual freight exceeds $4.00, an amount must be added to f.o.b. mill price that shall equal this excess. Official published freight tarriffs and authorized weights to be used in computing it.

III APPALACHIAN AND SOUTHERN HARDWOOD SUBDIVISION

DEFINITION OF APPALACHIAN AND SOUTHERN PRODUCING TERRITORIES (**)

(*) Cf. Lumber Code Authority Bulletin, Volume II, No. 66, Nov. 5, 1934 (Effective Nov. 9, 1934).

(**) Cf. Lumber Code Authority Bulletin, Volume I, No. 110. May 3, 1934. (Effective May 13, 1934).

Starting at Covington, Kentucky, following the main line of the L. and N. Railroad through Louisville, Kentucky, to the Tennessee-Kentucky line just south of Franklin, Kentucky; thence east along the Tennessee-Kentucky line to the western boundary of Picket City, Tennessee, thence along the westerly and south-western line of Picket City to the westerly line of Fentress City, thence along the westerly and southerly line of Fentress City to Morgan City, thence along the western line of Morgan City to Roane City, thence along the western line of Roane City to Rhea City, thence along the northerly and westerly lines of Rhea City to Hamilton City, thence east along the North Carolina and St. Louis Railroad through Chatanooga to the intersection of the 34th parrallel and the North Carolina and St. Louis Railroad east of Chatanooga, thence to the 34th parrallel in Georgia, making the western boundary of Appalachian territory; thence east on the 34th parrallel in Georgia to the main line of the Southern Railway Atlanta to Washington Route; thence northwest following the main line of the Southern Railway from this point through Georgia, South Carolina, North Carolina, Virginia, and Maryland to Washington, D. C.; thence north following the Pennsylvania Railroad from Washington, D. C. through Baltimore, Maryland, to Maryland-Delaware state line; thence following the Delaware state line to the Pennsylvania state line. All points on western boundary line of Appalachian territory are in Southern territory; all points on eastern boundary of Appalachian territory are in Appalachian territory.

IV. WALNUT SUBDIVISIONS

DEFINITION OF ZONES (*)

ZONE 1 - Illinois, Indiana, Ohio, Missouri, Arkansas, East Nebraska, East Kansas (**), Eastern Oklahoma.

ZONE 2 - Minnesota, Wisconsin.

ZONE 3 - Michigan.

ZONE 4 - Western New York, west of Herkimer, Western Pennsylvania, west of Plymouth and Harrisburg, West Virginia.

ZONE 5 - Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut, New Jersey, Maryland, Delaware, eastern New York, eastern Pennsylvania.

ZONE 6 - Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana.

ZONE 7 - Kentucky, Tennessee.

ZONE 8 - Southwest and Mountain.

(*) Line bisects Kansas, as it appears from the map, from north to south, extending through Nebraska and Oklahoma.

(**) Cf. Lumber Code Authority Bulletin, Volume I, No. 27, November 15, 1933 (Effective Nov. 25, 1933).

ZONE 9 - Washington, Oregon, California.

ZONE 10 - Western Ontario, East to and including Toronto.

ZONE 11 - Eastern Ontario, Quebec and Maritime provinces.

ZONE 12 - Western Canada

V. SPECIAL WOODWORK SUBDIVISION (*)

PRODUCTION ZONES

ZONE 1 - Florida, Georgia, South Carolina, North Carolina, Virginia, Alabama, Tennessee, Mississippi, Louisiana, Arkansas, Texas.

ZONE 2 - Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Pennsylvania, District of Columbia.

ZONE 3 - West Virginia, Ohio, Kentucky, Indiana, Michigan, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Oklahoma, South Dakota, North Dakota, Utah, Colorado, Wyoming, Montana, Idaho, New Mexico.

ZONE 4 - Arizona, California, Nevada, Washington, Oregon.

(*) Cf. Lumber Code Authority Bulletin, No. 24, Volume I, (effective November 18, 1933).

EXHIBIT C

Typical General Regulations Included In The Price Bulletin Of The Divisions and Subdivisions

Southern Pine division

General Rules (*)

1. All points mentioned herein include, where applicable, switching, car ferry (except Cape Charles ferry) and lighterage limits delivery costs.

2. Actual freight charges paid shall be deducted from invoices.

3. Freight shall be computed on established association item weights and lawful published lumber freight tariff rates.

4. Transportation charges included herein cover cost of transportation whether by rail, inland waterways (except to Eastern territory) or truck (whether contract, private or common carrier).

5. These rules apply to quotations, sales and shipments both from mills and concentration plants.

6. Rate absorptions sufficient to equalize land grant rate allowances may be made on "delivered" sales to the United States Government in addition to other authorized absorptions by those not enjoying the land grant rates.

7. Mills and concentration plants not located on railroads shall use rates applicable from the nearest rail shipping point and may absorb trucking costs thereto not to exceed 3¢ per 100 lbs., if actual rail shipment is made.

8. Where a consignee is not located on a railroad, delivered prices shall be based on the rail freight from shipper's rail head, whether moving by rail, inland waterway, or truck, but no additional absorption may be made for delivery beyond consignee's rail head.

9. Where mills and concentration plants at points on so-called short-lines pay lawful charges in addition to the trunk line or group rail bases to destinations at which delivered price bases are herein provided, and where switching charges at point of origin are in addition to through rates, such additional charges may be absorbed, but in no case shall the total rate computed by this method be lower than the base rate as set forth in Sections 2 and 3.

(*) Cf. Lumber Code Authority Bulletin No. 8 (Volume II), effective July 20, 1934, Section 1.

10. On all sales of car and railroad material for shipment to railroads operating in Southern and Southwestern divisions as defined by the American Railway Association, off-line may absorb not to exceed 5¢ per 100 lbs. in making delivery to the nearest point of connection with purchasing carrier, provided sale is made f.o.b. such carrier's rails. These provisions apply to all Class 2 and Class 3 carriers, and to Class 1 carriers (*) :

Southern Region	Southwestern Region
Atlanta & West Point R. R. Co.	Atchison, Topeka & Santa Fe Rwy.
Atlanta, Birmingham & Coast R. R. Co.	Burlington-Rock Island R. R.
Atlantic Coast Line R.R. Co.	Chicago, Rock Island & Pacific Ry. Co.
Central of Georgia Ry.	Fort Smith & Western Ry.
Charleston & Western Carolina Ry. Co.	Fort Worth & Rio Grande Ry.
Clinchfield R. R. Co.	Galveston Wharf Co.
Columbus & Greenville Ry.	Gulf, Colorado & Santa Fe Ry.
Florida East Coast Ry.	Kansas City Southern Ry.
Georgia R. R.	Kansas, Oklahoma & Gulf Ry.
Georgia & Florida R. R.	Louisiana & Arkansas Ry.
Gulf, Mobile & Northern R. R. Co.	Louisiana, Arkansas & Texas Ry.
Illinois Central System	Midland Valley R. R.
Louisville & Nashville R. R.	Missouri & North Arkansas Ry.
Mississippi Central R. R.	Missouri-Kansas-Texas Lines
Mobile & Ohio R. R. Co.	Missouri Pacific System Line
Nashville, Chattanooga & St. Louis Ry.	Oklahoma City-Ada-Atoka Ry.
New Orleans Terminal Co.	Pan Handle & Santa Fe Rwy. Co.
Norfolk Souther R. R. Co.	St. Louis-San Francisco Ry.
Seaboard Air Line Ry.	St. Louis, San Francisco & Texas Ry.
Southern Ry. System	St. Louis Southwestern Lines
Tennessee Central Ry. Co.	San Antonio, Uvalde & Gulf R. R.
Western Ry. of Alabama	Terminal R. R. Assn. of St. Louis
	Texarkana & Fort Smith Ry.
	Texas & New Orleans R. R.
	Texas & Pacific Ry.
	Texas Mexican Ry.
	Wichita Falls & Southern R. R.

11. In the case of direct sales to the United States Government, to creosoting companies for shipment to and treating at their plants, and to carrier railroads buying for their own use, sales may be made f.o.b. mill. F.o.b. mill prices may also be quoted to other public agencies on direct sales for their own use if such agencies may make shipment at rates lower than the regularly published lawful rail rates.

(*) This specification of railroads to which this rule applied was not common to all divisions.

EXHIBIT D

Questionnaire Used by Southern Pine Division
In Determining Extent to Which Freight
Charges Paid and Freight Included
In Delivered Prices Balanced
For the Division as a
Whole (*)

"Gain or Loss on Freight Differentials"

For Sales Made on Delivered Quotations, Using Arbitrary Basing Points for Freight Rate Computation.
For the three months ended March 31, 1934.

For the purpose of definitely ascertaining the effect of the use of basing points in quoting delivered prices please furnish the following information:

1. Total amount of estimated freight (or other delivery expense) added to f.o.b. mill prices, based upon arbitrary freight rates-billed to customers on shipments during period.

$_____

2. Total amount of actual freight (or other delivery expense) on the same shipments reported above, i.e., the total amounts i.e., the total amounts of actual freight deducted by customers in remitting for the same shipments reported under No. 1.

$_____

Difference - Gain or Loss $_____

A suggestion for arriving at the amounts of the above items, if these are shown on your books, is as follows:

Item No. 1. List all shipments made to customers during the period when delivered quotations were made and where estimated freight was based upon arbitrary rates, as shown below:

(1) Estimated weight for each shipment _____

(*) Cf. Code Bulletins of the Southern Pine Division, Vol. 1, No. 36, May 31, 1934. (In NRA files, Lumber and Timber Products Industries, Code History, Exhibit K-33.)

(2) Arbitrary freight rates used in determining delivered prices. _____

(3) Amount for each shipment (1 by 2) _____

Item No. 3. List from freight bills covering the same shipments as shown above the following:

(4) Actual weight for each shipment _____

(5) Actual freight rate for each shipment _____

(6) Amount for each shipment (4 by 5) _____

Gain or Loss (3) - (6) _____

CHAPTER III

PRELIMINARY MATERIALS RELATING TO THE BASING POINT SYSTEM IN THE IRON AND STEEL INDUSTRY

I. BRIEF STATEMENT OF THE PROBLEMS INVOLVED

A treatment of the multiple basing point system of pricing as incorporated in the Code of Fair Competition for the Iron and Steel Industry (Code No. 11, approved August 19, 1933) has to distinguish between two main aspects of the matter. The multiple basing point system and, prior to it, a single basing point system had existed in the industry for approximately thirty-five years. The code did not change fundamentally the form of the system as it had operated in the pre-code period. This fact suggests the great importance of an examination of the pre-code situation. If the pre-code basing point system was useful for the industry and not objectionable from the point of view of public policy, then NRA was justified in sanctioning it. If, on the other hand, valid objections were to be raised against the pre-code system NRA would have to be criticized for having incorporated it in the code. This point of view needs, however, to be modified and supplemented by a second consideration. This relates to the modifications in the system which the code effected. It is possible that the legal status given under an NRA code made the practice questionable, even if as a voluntary practice it was beneficial, or, at least, harmless. In addition to establishing legal enforcement of the basing point system, the code added a few other features such as its combination with price filings, an increase in the number of basing points, the prohibition by the code authority of price reductions in selling from one basing point area into another, the provision that freight be figured on an all-rail basis, even if shipment actually was made by waterway or truck, etc. All these features contributed to an effective implementation of the system and make necessary an examination and evaluation of what the code made of the system which had existed before NRA.

The main line of approach planned for this study of the steel basing point system under NRA was an analysis of the relations which exist between the structure of production and markets in the steel industry and its system of pricing. For such an investigation the steel industry offers a unique case. Strictly speaking, this industry embraces not one basing point system, but as many basing point systems as there are different product divisions. The basing point system for pig iron is different from that for crude steel or semi-finished steel. The wire product basing points differ in their structure from the basing points for sheets or plates. This situation opens up a wide field for comparisons of different instances of the relation between industry structure and basing point structure.

In explaining the relations existing between the industry structure and the basing point structure the following aspects of industry structure are considered as determining the situation: the heavy overhead cost structure of the industry in general and, specifically, the concentration of the heaviest investments at certain points such as Pittsburgh; the desire for both a steady rate of operation and price

stability, which desire, to a large extent, is induced by the high overhead costs; the existing overcapacity, which is more pronounced in the finishing field than in the crude materials field, since most integrated concerns attempt to develop a well diversified line of fabricating in order to keep their iron and steel furnaces fully occupied; the relative geographic concentration of producing facilities and the wide scatter of markets throughout the country; the dominant size of a few outstanding companies and their horizontal and vertical integration; and, finally, based on a combination of most of these factors mentioned, the propensity of the industry to price leadership. Since the general theoretical significance of overhead, overcapacity, integration of dominant concerns, and price leadership for the development of a basing point system has been discussed in Chapter I, no repetition is here intended. In an effort to study the manifestation of these structural inter-relationships in detail, an examination of the conditions surrounding the production of each product in each basing point area was undertaken. Due to limitations of time and personnel, this examination could not be finished. Section II of this chapter represents the first part of it. In this section are shown the types of companies, large or small, integrated or non-integrated, which produce the different lines of product in the different districts. Tables 12 to 27 furnish the data supplementing the presentation in the text. These materials were planned to be correlated to the movements of the different product price series at the different points of quotation. The price series are given in Tables 42 and 56; limitation of time prevented the completion of the analysis. The price date were intended to be used also for another line of analysis. An examination of the development of the price differentials obtaining between different basing points would shed light on the type of geographic price pattern for the implementation of which the basing point system was used. This analysis could not be completed either.

The results of these analyses promise to be significant. Tentatively, the surmise may be set forth that the decline in the amount of the differential above Pittsburgh prices which characterized the base price quotations of basing points in the West and South indicates that the relative shift in the location of the industry away from Pittsburgh may have been delayed and made more gradual, but was not prevented by the prevailing price structure. (*)

(*) It is clear that the higher the level of steel prices in the West and South was kept above Pittsburgh, the better was the possibility for Pittsburgh to compete in freightwise distant markets without having to content itself with too low net yields because of freight absorption.

Another significant aspect seems to be that products of relatively low value per unit of weight, such as pig iron which cannot economically be shipped long distances, have a great number of basing points and display comparatively independent price movements at each of these basing points, while finished products have typically a smaller number of basing points and their comparative geopraphic movemeats are much more closely inter-related. Other tentative results concerning a comparison between the basing point structures of semi-finished and of finished products are set forth in hypothetical form in the following sections of this chapter.

Because of the unfinished state of this study, no determinate conclusions as to the merits or demerits of the steel basing point system could be reached. Some of the most important aspects of the modification of the basing point system effected by NRA are presented in tentative form in Section IV of this chapter.

In brief summary, it might be said that an examination of all angles of the matter emphasizes that the steel basing point system with its product peculiarities follows logically from the structure of the production and marketing of steel, which, in turn, depends upon basic financial and technical traits of our modern industrial system. Such an interpretation of the system suggests that a reform of its less desirable features would have to be directed towards a gradual reshaping of fundamental characteristics of the manufacturing industry.(*)

II. STRUCTURAL AND ECONOMIC BACKGROUND OF THE IRON AND STEEL INDUSTRY.

The iron and steel industry is made up principally of financial and producing units of very large size. Its cost structure is characterized by extremely high overhead costs. It is concentrated geographically in a comparatively small number of areas. These structural characteristics have been extremely influential in affecting the geographical pricing practices of the industry. The purpose of this section is to discuss these features of the industry and the causes for their existence.

In general it will be necessary to analyze the various branches or divisions of the industry separately. The economic character of the various divisions of the industry differs so substantially that a general treatment of the industry without differentiation among them is impossible.

A. Products and Processes

1. Products

The products of the iron and steel industry may be grouped according to the following classification: pig iron and certain ferro-alloys, steel ingots, semi-finished products, heavy-finished products and light-finished products. Pig iron and ferro-alloys and ferrous scrap are used principally

(*) Lack of time precluded a thorough discussion of the two valuable contributions to the problems of the steel basing point system to which NRA gave rise. See the references to the Federal Trade Commission and NRA reports on this matter, Chapter I, Section III, supra.

in the production of ingots, and for grey iron and steel castings. Steel ingots are used almost entirely in the making of semi-finished products (slabs, blooms and billets) while the latter are further consumed in the production of finished industry products, either by the producer of blooms, billets and slabs or by the purchaser thereof. The heavier finished products are mainly plates, bars and shapes. Plates are used for heavy purposes such as building freight cars, ships and tanks, and general construction. Bars are made into products used primarily by industry in general. Shapes are used principally for construction purposes. The lighter finished products are mainly sheets, strips, tin mill black plate, tin plate, wire and wire products, and some types of pipe. Sheets and strips are used largely in the automobile industry and fabricated metal products industry and to a lesser extent in heavy construction. Tin mill black plate and tin plate, the further processed form of tin mill black plate, are used almost entirely in the making of cans. Wire and wire products, principally fence and wire nails, are used to a considerable degree for agricultural purposes and in construction. Pipe is consumed preponderantly as a conduit for water, oil and gas.

Iron and steel products are in the main highly standardized both as to dimension and chemical composition. In recent years, however, the production of alloy steels, which vary considerably in composition, has increased substantially.(*)

(*) Cf. Annual Statistical Report of the American Iron and Steel Institute for 1934, p. 19.

2. Processes

Among the most important factors affecting the basic character of the industry structure has been the nature of its manufacturing processes. The processes begin with the conversion of raw material into pig iron in the blast furnace. About two tons of iron ore, one ton of coke and four-tenths ton of limestone are required to make one ton of pig iron.

Steel is made by conversion of pig iron and/or other ferrous materials by the open-hearth and electric furnace or the Bessemer convertor processes. The use of the Bessemer convertor dates from about seventy-five years ago. The open-hearth furnace is a comparatively recent development and its use is increasing. It accounts for approximately 90% of the total steel output.

The open-hearth furnace process is amenable to the use of ferrous scrap as a major portion of the material charge for the making of steel. Pig iron constitutes the bulk of the other materials used. The Bessemer convertor, on the other hand, is restricted largely to the use of pig iron. Pig iron and ferrous scrap are used in varying proportions although usually in approximately equal proportions. The ratio used is sometimes influenced by the relative prices for pig iron and scrap.

Molten pig iron technically referred to as "hot metal", in integrated mills, is delivered to the steel furnaces and convertors directly from the blast furnaces. In 1933, 9,595,087 tons, or about 72% of the total production for the industry, were delivered in a molten state. (*)

The ingot after having been poured is allowed to cool then reheated and is then broken down by hammering or rolling into semi-finished or finished forms. The first forms into which it is converted are blooms, billets, and slabs. Next the steel is rolled into semi-finished or finished rolled forms. Sheet and tin-plate bars are rolled further to form sheets, strips and tin mill black plate. Sheets and strips may be classified as either hot-rolled or cold-rolled. The major tonnage into which blooms, billets and slabs are converted are sheet bars, plates, sheets, strip, shapes, bars, rods, wire rods, skelp and tube rounds. Plates, shapes and bars may be sold and used as such.

Wire rods, skelp and tube rounds are subsequently manufactured into wire, welded and seamless tubing, respectively. Wire rods are converted into wire by being drawn into the desired size. Skelp is welded to form pipe. Tube rounds are made into seamless tubes by a process of piercing and drawing over a plug and mandrel.

The finished rolled and drawn products are in some cases processed further before they are ready for consumption. Tin mill black plate is produced almost entirely for further fabrication into tin plate, by a process of coating with tin. The sheets, wire, and pipe are in part converted into galvanized products by being coated with zinc.

(*) Census of Manufactures: 1933.

To summarize, the processes of making pig iron, steel, wrought iron and some ferro alloys constitute the basic operations of the industry from which all the semi-finished products for the subsequent operations are obtained. In the succeeding stages the steel undergoes different specialized processes to make the various rolled, drawn and welded forms.

There have been a number of new developments in the process of manufacturing steel products in recent years. Among the most important has been the installation of continuous mills, principally for the rolling of sheets and strips. In these mills the rolls are arranged in a continuous series so that the entire rolling operation is performed in one stage. The ordinary reversible type rolling mill has rolls which reverse themselves and by successive operations reduce the product to the desired shape. Another important development has been the electric welding process for pipe. By this process a single strip, sheet or plate of steel is welded into pipe in a continuous operation.

The processes for making and rolling iron and steel are, in the main, continuous. The continuous processes were adopted in order to offset the high costs which are incidental to the starting and stopping of operations. The advantages of continuous operations have substantially reflected the organization of producers, notably in vertical integration.

B. Structure and Location of the Industry

An analysis as applicable to the above caption is presented on the following basis: -- First, a general survey of the industry capacity to produce the major industry products and, second, a detailed capacity statement for each major industry product.

1. General Survey - The total industry capacity for each major industry products is: (*)

Product	Tons
Pig Iron and Ferro-alloys	51,110,061
Steel Ingots	69,755,371
Blooms, Billets and Slabs	49,206,520
Sheet and Tin Plate Bars	9,298,920
Sheets	7,281,362
Hot-Rolled Strips	4,214,878
Cold-Rolled Strips	1,377,950
Tin Mill Black Plate	2,759,100
Tin and Plate and Terne Plate	2,663,400
Merchant and Concrete Reinforcing Bars	12,269,883
Plates	5,989,070
Structural Shapes	5,205,340
Skelp	3,980,700
Pipe and Tubular Products	8,741,300
Wire Rods	4,433,763
Wire (drawn)	4,064,450
Wire Products	2,440,150
Steel Rails	2,069,100
Cold Drawn Bars	1,332,248

Footnote on next page.

The tendency of producers is to increase their finishing capacity in a number of different lines in order to obtain the fullest use of their ingot and semi-finished rolling capacity. The effect of the increase in finishing capacity is toward lowering the costs of the entire volume of output and flexibility of operations. The acquisition of increased finishing capacity in a number of different product lines is particularly valuable to concerns because it facilitates the stabilization of their operations and production of their major lines.

The tendency toward diversification in product lines is exemplified by the fact that the largest companies engage in the production of a number of different lines. The larger companies, the United States Steel Corporation, the Bethlehem Steel Corporation, the Republic Steel Corporation, the Jones and Laughlin Steel Corporation, and the Youngstown Sheet and Tube Company, respectively, each produce substantially all of the major industry products.

While the largest concerns are diversified to a considerable degree, the smallest concerns in many instances are highly specialized. Many of the latter companies are specialized in the making of finished products. A detailed break-down of the diversified activities of members of industry producing industry products is indicated in Table 31, Appendix.

The group of large companies making a number of different products, occupies a far greater capacity position in the industry than do the much larger number of smaller companies. The aggregate percentage of the above five large companies in each product line, is as follows:

Pig Iron	71.12
Steel Ingots (and Steel for Casting)	69.42
Blooms, Billets and Slabs	73.68
Merchant and Concrete Reinforcing Bars	68.47
Plates	71.18
Structural Shapes	89.13
Sheet Bars	75.55
Sheets	41.09
Hot Rolled Strips	44.10
Cold Rolled Strips	23.96
Wire Rods	66.06
Plain Wire	53.33
Wire Products	54.11
Skelp	87.42
Pipe and Tubular Products	60.69
Tin Mill Black Plate	59.29
Tin Plate and Terne Plate	55.69
Steel Rails	82.05

Footnote continues from preceding page.

(*) Compiled from Iron and Steel Works Directory for the United States and Canada for 1935, American Iron and Steel Institute. Blooms, Billets and Slabs from National Recovery Administration report on the operation of the Multiple Basing Point System in the Iron and Steel Industry, November, 1934.

A break-down of the relative diversified activities of the five largest members of industry is indicated in Table 32, Appendix.

The size of companies on the whole appears to be increasing. A number of financial mergers has occurred in the last fifteen years. Among the more important was the recent merger of the Republic Steel Corporation and the Corrigan, McKinney Steel Company in 1934. Also important was the merger of the Bethlehem Steel Corporation with the Lackawanna Steel Corporation and the Midvale Steel and Ordinance Company in 1922.

While statistical data are not available showing this trend toward consolidation, they are available with respect to the increase in size of the producing establishments. (*)

2. Detailed Capacity Analysis - In the tables numbered 12 to 27, and 29 and 30 there are presented detailed capacity statements relative to the production of major industry products.

From the data presented in the above tables, the reader will be able to determine the percentage capacity relationship between the large and small companies, the relationship of integrated and non-integrated companies, the geographical production and distribution centers for finished and semi-finished products by both integrated and non-integrated companies, and the productive relationship between the major industry products. For a further detailed analysis, the reader is referred to maps numbered 1 to 19 inclusive, which present a geographic analysis of the locale of the production centers for the major industry products. The reader is also referred to Tables 31 to 38, inclusive, wherein are presented statistics correlated and supplementary to the statistics contained in the aforementioned tables.

C. Cost Structure of Production

In the cost structure of the industry, overhead costs bulk large. These costs fall essentially into two categories. First, there is financial overhead in the form of capital charges, and these are costs which are attributable to the entire corporation. Second, there is technical overhead which is associated with the individual producing unit. The technical overhead costs may be reduced by the internal operating policies of corporations. For example, one of the principal cost elements of this character is connected with the process of manufacture. The process of production is a continuous process. The costs associated with starting the process are very great. Once it is started it becomes very expensive to stop it and start it again. Consequently, a considerable amount of overhead cost is invested in the process once it is started. If horizontal combinations of companies can shift their production from one producing mill to another and thus keep at least one plant operating continuously, instead of a number intermittently, their amount of technical overhead costs may be reduced. Their financial over-

(*) Cf. Tables 33 and 34, Appendix.

head costs differ from these in that the cost per unit of sales may be reduced only by increasing the total sales of the corporation.

The cost structure of the industry varies considerably, as between product groups and types of industrial organization. On the one hand, the costs of producing pig iron are preponderantly of a direct nature. About 78% of the total cost is attributable to raw materials. Direct labor accounts for another 4.7% of the total cost. Together raw materials and direct labor account for about 82.7% of the cost. Overhead cost amounts to approximately 4% of the total cost. The remaining proportion of the cost is divided among miscellaneous items. (*)

This cost structure for pig iron is approximately confirmed by the Census reports for the Blast Furnace Industry on cost of materials, etc., value added by manufacture, and total value of products. The cost of materials, etc., represented in 1933, 86.1% of the value of products while the value added by manufacture is made up of two general types of costs, wages and overhead. Wages represented 5.4% of the total value while the remainder which is principally overhead bore a relation of 8.5% to the total value.** These percentages roughly bear out the cost structure of pig iron as indicated above.

On the other hand, the costs of producing steel and rolled products include a much larger element of overhead. No analysis of these costs has been made by the Tariff Commission. Consequently, reliance must be placed upon the Census reports that were referred to in the case of pig iron. The cost of materials, etc. for "Steel-works and Rolling-Mill Products" in 1933 was only 60.5% as compared with 86.1% for the "Blast Furnace Industry". The value added by manufacture for the former products was 39.5% of the total value while it was only 13.9% in the case of the latter. Wage expense in the manufacture of the products of steel-works and rolling mills was about 22.6% of the total. The remaining 16.9% represented the cost of equipment which was preponderantly overhead cost. (***)

On the whole the cost structure of integrated concerns contains a somewhat higher proportion of overhead costs than non-integrated companies. The former concerns must make large fixed investments in capital equipment and ore and coal reserves. The costs of these facilities once they are acquired are almost entirely of an overhead nature. On the other hand non-integrated producers enjoy somewhat greater flexibility of costs. A much larger proportion of their costs are of a direct nature which permits them more easily to reduce operations as the volume of sales and prices require.

In addition to the proportions of the several cost elements, the actual amount of the costs varies with different types of concerns. The integrated producer of pig iron for example enjoys a substantially smaller

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(*) Computed from Table 64, Appendix.

(**) Computed from Census of Manufactures for 1933, Blast Furnace Industry.

(***) Ibid.

total cost than the merchant producers. In 1924, the average cost of the former group in the production of foundry and malleable pig iron was $20.34 per ton while that of the latter companies was $23.05 per ton. (*)

(*) Cf. Table 65, Appendix.

D. Distribution and Markets

This part of the analysis is divided into three sections, first, the channels of distributions, second, transportation methods and problems, and third, the character and location of markets.

1. Channels of Distribution

Iron and steel which is sold, except for a minor proportion of the total, is distributed directly to the used. Jobbers and warehouses in 1935 distributed only about 13% of the total finished products. (*) The proportion distributed by jobbers varies for different products. In the case of pipe and tubing it is about 38%. Approximately 49% of the galvanized sheets are sold through this channel. Jobbers are also an important factor in the distribution of wire products.

2. Transportation

The principal mode of delivering iron and steel products is by rail. However, a substantial amount is also delivered by water. A small quantity is delivered by truck.

The average costs of shipping iron and steel products although substantial is not prohibitive. The average freight cost for all these products has been estimated to bear a relation of approximately $79 to every $1000. (**) value of the product. The proportion of freight cost to total value varies substantially among the different types of products. For example, in the case of pig iron it is so great as to essentially prohibit shipments over long distances. However, the cost of shipping highly finished products is so much smaller in relation to their value that they may be shipped with facility to almost any destination in the country. In general as the value of the product becomes greater, the ratio of its shipping cost to value decreases.

The relative transportation costs are also affected considerably, as regards the per mile cost, by the distance of shipment. As the distance becomes greater the per mile cost of shipping decreases markedly.

A third significant aspect of the transportation system is the practice which is known as fabrication-in-transit. Under the privilege of "F-I-T", a fabricator is able to buy his raw material at a distance, fabricate it and ship it to market at about the same cost as if he had shipped directly over the same distance on a through haul. This privilege has made it possible for fabricators located at one point to invade the natural markets of their competitors located at a distance and at the same time cut below their prices. The operation of this privilege is explained in the National Recovery Administration's Report on the Operation of the Multiple Basing Point System in the Iron and Steel Industry, November 30, 1934, p. 35, as follows:

(*) Computed from the "Distribution of Rolled Steel in 1935 according to Shipments of Companies Producing 78.5 percent of the year's output." Iron Age, January 2, 1936.

(**) Cf. Senate Document No. 12, 73rd Congress, "A Natural Plan for American Forestry", March 13, 1933, Volume II, p. 1358.

"The Chicago Fabricator can buy steel (from a Buffalo mill) in Chicago for $1.70 plus 3¢ switching charge. The Buffalo mill, to utilize idle capacity, may meet this Chicago price of $1.73 delivered, netting the Buffalo steel producer $1.38. The Chicago fabricator then ships his product to Kansas City on a fabrication-in-transit basis, securing a refund from the railroad which leaves him having paid only 50¢ (or the through rate from Buffalo to Kansas City) plus 3¢ transit charge or 62¢. As 35¢ of this was already included in the delivered price of $1.73 which he paid for his steel, it only costs him 27¢ to ship his product from Chicago to Kansas City, although if he had bought his steel from a Chicago steel mill (paying the same $1.73 for it) he would have had to pay the railroad 42¢ to ship to Kansas City. Thus he has saved 42¢ minus 27¢ or 15¢ by ordering his steel shipped to him from Buffalo instead of buying it at Chicago which covers the 3¢ transit charge and leaves him 12¢ advantage. He can lay his product down in Kansas City with a total burden for material and transportation of $2.00 ($1.73 + 27¢). The Kansas City fabricator obtains his lowest price from a Chicago mill, that is $1.70 - 42¢ or $2.12, and therefore cannot meet the $2.00 price except by persuading a Chicago mill to cut its price secretly."

3. Markets

The rank of the leading consuming industries for iron and steel products with respect to aggregate quantities consumed varies considerably from year to year. (*) In 1935, the principal consumer was the automobile industry which accounted for 24.8% of the total. The second and third largest consumers were the construction and metal container industries which were responsible for 11.7% and 11.6% of the total, respectively. Agriculture was next with 9.3% of the consumption. Oil, gas and mining together were responsible for 5.7%, while the railroads accounted for 6.5% These proportions represented a considerable change from 1929. In that year the automotive industry accounted for only 18.0% of the total; buildings, 16.5%; oil, gas and mining, 10.5%, and railroads, 17.0%.

Many of these industries tend toward localization in certain regions of the country. The most highly concentrated is the automobile industry which is centralized at Detroit. The agricultural implement industry is largely concentrated in the Chicago district. The oil, gas and mining industry is located in large part in the southwest and in California.

Very little data are available with respect to the markets for the individual producing areas of the country. The only statistical data of this character to be had are those for the distribution of products of the mills located within a 50-mile radius of Pittsburgh during a period of three months under the code. (**) From this data it is seen that about 34% of the output was distributed within Pennsylvania, 15% in Ohio, 10.7% in New York, 9.2% in Michigan and 9.1% in the south central states. These states in all accounted for 78% of the total consumption. The remaining 22% was sold in other states.

(*) Cf. The Iron Age, January 2, 1936.
(**) Cf. Table 41, Appendix.

On the whole, it appears that a substantial portion of the output of the industry must be shipped a considerable distance to markets. Among the reasons for the distance of producers from these markets is, as has been discussed before, the necessity for location near the source of raw materials.

E. Production and Prices

1. Production

The production of iron and steel products fluctuates with demand for industry products. The output of steel in 1929 rose to its all-time high of 56,433,473 tons which bears a relation of 88.5% to capacity. (*) By 1932 the product had fallen to 13,681,162 tons, a decline of approximately 76%. Its scale of operations at that time was only 19.5% of capacity. The following year it increased to 23,232,347 tons, an increase of 70%.

The relative decline in gross tonnage output during the depression varied considerably for different products. (**) For example, it was substantially less for strips and other products, which are sold to the automobile industry and for tin plate used in the canning industry, than it was for heavy products like plates, shapes and rails. The output of strips fell from 2,502,793 tons in 1929 to 1,185,184 tons in 1932, a decline of about 53%. Black plate production decreased in the same period from 2,159,173 tons to 1,141,946 tons, a decline of 47%. Plates, however, declined in output from 5,022,141 tons to 829,830 tons, a decrease of about 84%. Rail production fell from 2,722,138 tons to 402,566 tons, a decline of about 85%. (***)

In addition to its wide cyclical movement the iron and steel industry has a seasonal movement of production. The seasonal movement of pig iron production may be used to indicate the movement for the entire industry. The peak month of the year is March with a seasonal index of 105. The lowest month of the year is February with an index of 93. (****)

The seasonal index varies somewhat in amplitude and with respect to dates of the peaks and troughs in the various producing areas. The greatest amplitude occurs in New Jersey where the index is 108 in May and 85 in February. It is also substantial in southern Ohio, where it is 110 in March and 90 in July. In the western states it is 112 in March and 90 in September. These indices indicate a varying amplitude and timing. (*****)

2. Prices

The composite index of finished steel prices in the period 1921-1924 fluctuated somewhat more widely than did the Bureau of Labor Statistics indices of all commodity and finished products prices. (******)

(*) Cf. Table 37, Appendix.
(**) Cf. Table 38, Appendix.
(***) Computed from Table 38.
(****) Cf. Table 36, Appendix.
(*****) Ibid.
(******) Cf. Chart I, infra.

The finished steel price index of 101.9, averaged for the year 1921, fell to 87.5 for the year 1932, while the Bureau of Labor Statistics' all-commodity index declined from an average of 97.6 to 96.7, and its finished products index decreased from 103.3 to 96.5. In 1923 the finished steel index was 112.1, the all-commodity index 100.6, and the finished products index 99.2. During the period 1925 to 1929 all three indices moved in close harmony. However, beginning in 1930 all three declined substantially but the order of amplitude was reversed from what it was in 1921-1923. All commodities fell from 95.3 in 1929 to 64.8 in 1932, finished products from 94.5 in 1929 to 70.3 in 1932, and finished steel from 96.2 in the former year to only 81.4 in the latter.(*)

Pig iron prices have, on the whole, moved in somewhat closer relation to all commodities than have finished steel prices. Pig iron prices have further tended to fluctuate in accordance with the price movements of scrap with which it is a competitive product. (**)

An additional reason for the relatively higher degree of flexibility of pig iron prices is the greater preponderance of direct costs. The direct costs force prices upward in proportion as they increase and conversely they permit price reductions as they decline. The higher overhead costs of steel production, on the other hand, do not fluctuate as other prices and costs do. This, among other factors, has tended to cause the rigidity of steel prices.

Among the rolled and finished products, the greatest price declines between 1920 and 1929 occurred in the case of hot-rolled and cold-rolled strips. (***) Their price index on a 1926 base declined from 216 to 82 in the former case and from 216 to 77 in the latter. Other important price declines during this period were registered in the case of galvanized sheets, hot-rolled annealed sheets, sheet bars, plates, billets and soft steel bars. The smallest price decline was for standard steel pipe. Its index in 1920 was only 118 and in 1929 it was 100.

During the depression, the price index for hot-rolled annealed sheets fell from 96 in 1929 to 74 in 1932. Hot-rolled and cold-rolled strip also declined greatly. The former was at 82 in 1929 and at 62 in 1932, while the latter was at 77 and 55 in 1929 and 1932, respectively. Wire nails declined from 97 in 1929 to 74 in 1932, while plain wire decreased only from 98 to 88. Billets and sheet bars also declined in price substantially. The price of the former was at 99 in 1929 and 76 in 1932 while that of the latter was at 97 and 72 in 1929 and 1932 respectively. Skelp declined in price comparatively little, from 98 to 83, while the reduction in the case of standard steel pipe was less than any other, namely from 100 to 92. (****)

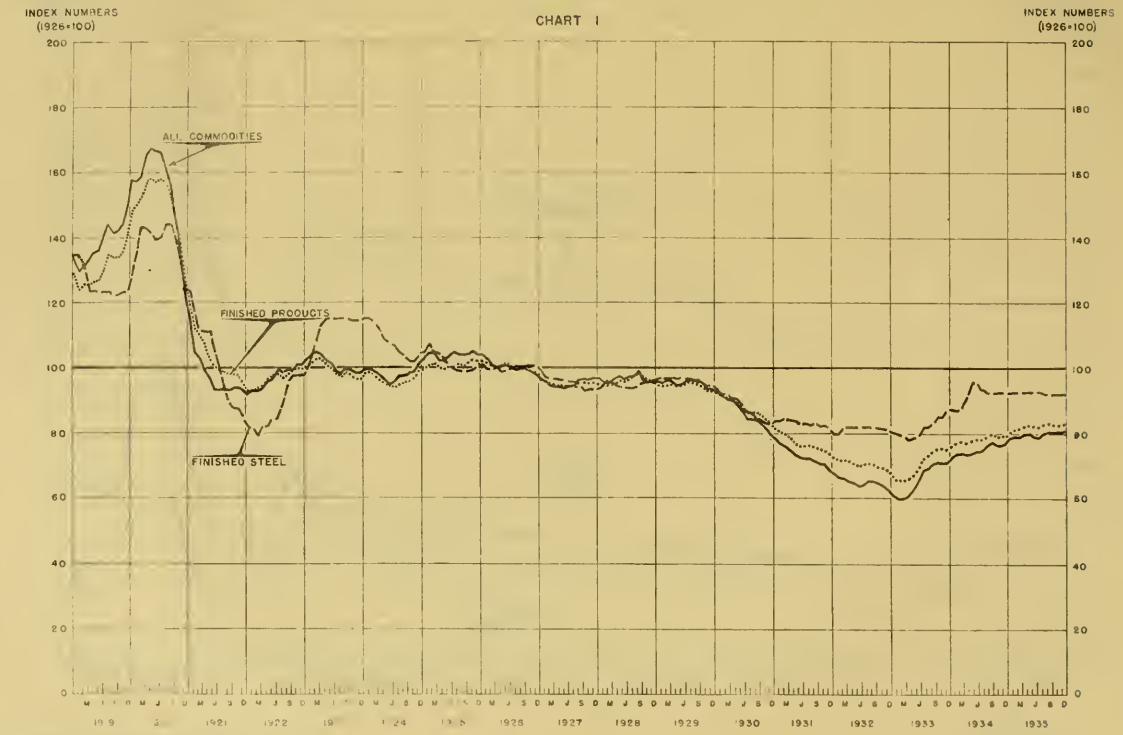
The causes for the varying declines in different products are to be seen in a number of factors. The substantial reductions that occurred in the case of hot-rolled annealed sheets, hot-rolled strips and cold-rolled strips were due in part to the strong bargaining position of the automobile companies which are the largest consumers of these products. An additional

(*) Cf. Tables 61, 62, and 63, price indices for all commodities, finished products, and finished steel, respectively, 1919-1935 (index:1926=100).
(**) Cf. Chart 2, infra.
(***) Cf. Table 57, Appendix.
(****) Ibid.

COMPOSITE INDEXES OF FINISHED STEEL AND GENERAL PRICES

1919-1935

CHART 1



SOURCE. ALL COMMODITIES AND FINISHED PRODUCTS FROM BUREAU OF LABOR STATISTICS

FINISHED STEEL COMPILED BY N.R.A. FROM AMERICAN METAL MARKET DATA

N.R.A.
DIVISION OF REVIEW
STATISTICS SECTION
NO. 500

9864

COMPOSITE IRON AND STEEL PRICES

1919 -1935

CHART 2

SOURCE: FINISHED STEEL - "AMERICAN METAL MARKET"
PIG IRON AND STEEL SCRAP - "IRON AGE"

N.R.A.
DIVISION OF REVIEW
STATISTICS SECTION
NO. 501

9864

factor causing their price decline was the introduction of the continuous rolling mill for their manufacture. These mills have tremendous capacity and overhead costs and consequently the tendency to increase their output by price reductions is very strong. Additional factors which have affected the extent of price declines have been the number of companies and the relative amount of concentration of capacity in the hands of the largest concerns. For example, in the case of sheets there is a comparatively large number of companies and, furthermore, the largest concerns have a relatively weak position in the industry with respect to aggregate production. On the other hand, there are few producers of wire rods and skelp and the largest concerns occupy a much stronger position in the industry. The number of manufacturers of plain wire and pipe is relatively large but most of the concerns are of very small size.

III. THE PRE-CODE BASING POINT SYSTEM

The basing point system was established first in the form of a single basing point system, namely the Pittsburgh-Plus system. The latter was abrogated in 1924 by a cease and desist order from the Federal Trade Commission and was superseded by the multiple basing point system. This system continued to function with some modifications down to the adoption of the Code. This section traces the transition through the above stages and the economic and legal causes for the changes.

A. The Pittsburgh-Plus System

The Pittsburgh-Plus system originated in the latter part of the nineteenth century. The conditions under which it came into existence are significant in the light they throw upon the causes and results of the multiple basing point system. The conditions under which it was terminated are further significant. These are discussed in the following pages.

1. Inception of the Pittsburgh-Plus System

Up to the latter part of the nineteenth century the most general method of pricing used in the iron and steel industry was pricing on an f.o.b. mill basis. (*) About 1880, the Pittsburgh-Plus system first made its appearance in the steel industry as a pricing device for the sale of beams. (**) Thereafter, Pittsburgh-Plus and uniform zone price systems were in use in various branches of the industry until about 1901. About 1903 the Pittsburgh-Plus system came into general use for the entire industry. (***)

The period of the transition from the f.o.b. mill system to the uniform delivered zone price and Pittsburgh-Plus systems was marked by significant changes in the structure of the industry. Prior to the adoption of the various types of delivered pricing systems the size of companies and producing units was substantially less than after the Pittsburgh-Plus system and other similar pricing devices came into existence. The era of the large horizontal combinations of producing companies did not begin until 1898. (****)

Concurrently with the increase in size of producing units and the integration of companies the fixed or overhead costs of the industry were enhanced materially. Prior to this time the output of the industry was preponderantly iron. Throughout the latter part of the nineteenth century

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(*) Federal Trade Commission v. United States Steel Corporation et. al., (Docket No. 760), (1924) Brief and Argument by Attorneys for Federal Trade Commission, p. 14.

(**) Federal Trade Commission v. United States Steel Corporation et. al., op. cit., p. 12.

(***) Federal Trade Commission v. United States Steel Corporation et. al., op. cit.

Cf. also - McCallum, E. D., The Iron and Steel Industry in the United States, (London: P.S. King and Son, 1931) p. 134.

(****) McCallum, op. cit., page 116.

the output of steel increased substantially in proportion to the production of iron. The production of iron requires a relatively smaller investment in capital equipment than does steel production.

The process of steel making represents a continuation of the manufacturing processes that is begun with the conversion of raw material in a blast furnace to obtain molten or iron in pigs.(*) Consequently, in order to produce steel, the operation of both blast furnaces and steel furnaces and/or convertors is required. The integration of steel companies for the purpose of controlling the entire process of production from the raw material to the finished product materially increased capital investments.

The changes in the industry at this time were evidenced also in the growth of producing centers located in the more western sections of the country. The industry prior to the establishment of the delivered and Pittsburgh-Plus pricing systems was concentrated much more in the eastern part of the United States than during the following decades. With the growth of the western producing areas the intensity of competition between geographically separated companies was greatly increased.

In addition to the structural changes in production, the transition from the iron to the steel industry effected changes in distribution due to relatively lower shipping costs. Steel, being of greater value than iron, bore higher prices, and consequently, the freight cost of shipping it was, relative to its price, less than that of shipping iron.

The intensified competition engendered by the growing size of producers, higher overhead investment costs, the rise of new producing centers and relatively lower transportation costs, among other factors, was influential in causing the industry toward the latter part of the century to embark upon a policy of industrial combination. Combinations of a formal nature had existed in the industry as early as 1877. (**) Beginning about this time several pooling associations were formed. In 1898 and the following three years a number of large consolidations of producing companies took place. (***) Some of these companies embraced as much or more than half of the total industry capacity in their respective lines of production. In 1901 under the threat of an impending price war the United States Steel Corporation was formed, uniting in one company 43.2% of the pig iron output, 65.7% of the steel ingot production, and 50.1% of the production of all kinds of finished roll products in the United States.(****)

Among the results of the formation of pooling associations and huge consolidations was the adoption of delivered pricing, uniform price zone and Pittsburgh-Plus systems in the various branches of the industry. The first Pittsburgh-Plus system was established in 1880 as mentioned above, by the first beam association organized. (*****) The structural

(*) Cf. supra, Chapter III, II-A.
(**) McCallum, op. cit., page 115.
(***) McCallum, op. cit., page 118.
(****) Ibid., p. 121, and Annual Statistical Report of the American Iron and Steel Institute for 1928.
(*****) Federal Trade Commission v. U. S. Steel Corp., et al., loc. cit.

steel association in 1897 set up a uniform price zone system with zones radiating from Pittsburgh, the price differentials between zones representing differences in average freight costs from Pittsburgh.(*) The billet pool of 1896 established the Pittsburgh-Plus system for billets.(**) Following the organization of the United States Steel Corporation in 1901, the Pittsburgh-Plus system was extended into many additional branches of the industry.(***)

The zone pricing system did not, on the whole, prove successful. Fabricators who were located near the boundaries of more distant zones found that the zone differentials in prices placed great handicaps upon them if they had to compete with other fabricators across the boundary line who paid substantially less for steel than they did. Furthermore, steel sold for delivery in a low price zone would be diverted in transit to a higher price zone. These factors forced the abandonment of the zone pricing system in favor of general adoption of the Pittsburgh-Plus system.(****)

2. Pricing Policies Following the Organization of the United States Steel Corporation

The United States Steel Corporation sometime after its formation assumed the position of price leader for certain branches of the industry. (*****) The pooling associations which had continued after its formation as devices for controlling pricing practices were superseded in 1907 by the so-called "Gary dinners". (******) These dinners were meetings of the principal members of the industry and were devoted to discussions of prices. The aim of Judge Gary in holding these meetings was to obtain the cooperation of the important steel producers in preventing price demoralization and "destructive" competition. (*******) The Gary dinners were continued until 1911, when the United States Government started its dissolution suit against the Steel Corporation. Thereafter the corporation continued to publish its prices but no other control devices were instituted as a vehicle for the operation of the Pittsburgh-Plus system. (********)

The Pittsburgh-Plus system was deviated from for the first time on a permanent basis with the granting of a concession to Birmingham consumers in 1908. Shortly after the acquisition of the Tennessee Coal, Iron and Railroad Company in 1907 the United States Steel Corporation began to meet difficulties in that district in maintaining the price at

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(*) Ibid., pp. 15-17. (**) Ibid., p. 50.
(***) McCallum, op. cit., p. 134.
(****) Seager, H. R. and Gulick, C. A., Trust and Corporation Problems, (New York: Harper and Brothers, 1929)
(*****) Federal Trade Commission v. United States Steel Corporation et al., (Docket No. 730), (1924) Brief for Federal Trade Commission, pp. 167-168.
(******) Seager and Gulick, op. cit., p. 244.
(*******) Ibid., p. 245, op. cit.
(********) Ibid., op. cit., p. 247.

a Pittsburgh-Plus level. The smaller producers of plates and bars followed a practice of cutting below the Pittsburgh-Plus prices. (*) As a result the Tennessee Coal, Iron and Railroad Company was forced to grant a concession of$1 per ton from the Pittsburgh-Plus price to meet this competition. (**) The Steel Corporation experienced added difficulties in this district as a result of the practice of consumers purchasing steel from northern points instead of buying locally from the Tennessee Company, in order to prevent the latter from obtaining the benefit of the fictitious freight charged at Birmingham. (***) The demands of the consumers for a reduction in price were supported by the recommendations of the sales manager of the Tennessee Company. Consequently, the Tennessee Company in 1908 granted a concession from the Pittsburgh-Plus price to Birmingham consumers reducing the price there to an arbitrary differential of $3.00 per ton above Pittsburgh until 1920, when at the time of a general increase in railroad rates it was advanced to $5.00 per ton. It remained at this level until the termination of the Pittsburgh-Plus system in 1924. (****)

The United States Steel Corporation was in the main successful in obtaining cooperation with its policy of price stabilization. However, in times of depression, price cutting was prevalent and the Pittsburgh-Plus System was not strictly observed. In 1908 following the panic of the preceding year the Chicago mills quoted the prices of plates, bars and shapes on a Chicago basis for a time.(*****) Again in 1921 Chicago became a basing point for these products when the Midvale Steel and Ordnance Company cut below the Pittsburgh-Plus prices. (******) The prices of these products were not restored to a Pittsburgh-Plus basis thereafter. However, the Pittsburgh-Plus system was continued at this time on wire, sheets and tin plate.(*******) Price cutting also occurred at Lackawanna, New York, where the Lackawanna Steel Company and the Midvale Steel and Ordnance Company began in 1921 to quote prices on a Lackawanna base for plates, bars and shapes.(********) The price cutting at Lackawanna was brought to an end by the merger of the Midvale Steel and Ordnance Company and the Lackawanna Steel Company with the Bethleham Steel Company in 1922.

Shortly following the period of general price cutting in the depression of 1921 and 1922, Youngstown became an accepted basing point for certain products. The prices of the semi-finished products, billets,

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(*) F.T.C. v. U. S. Steel Corp. (Docket No. 760) Brief for Federal Trade Commission, p. 270.
(**) Ibid.
(***) Federal Trade Commission v. United Steel Corporation, et al., (Docket No. 760) Findings as to Facts and Conclusion, p. 31.
(****) Ibid.
(*****) F.T.C. v. U. S. Steel Corp. (Docket No 760), p. 252.
(******) F.T.C. v. U. S. Steel Corp. (Docket No. 760), p. 252. Also Cf. Tables 48 and 49, Appendix.
(*******) Ibid., p. 306.
(********) Federal Trade Commission (Docket No. 962) in the Matter of the Bethlehem Steel Corporation, Exhibits 5136, 2906, 2907, 6496-6499, et al.

blooms, sheet bars, wire rods and skelp, at Youngstown, declined in January of 1923 to the same level as the Pittsburgh prices. These prices remained on the Pittsburgh level with minor exceptions thereafter during the life of the Pittsburgh - Plus system and subsequent to its abrogation.(*)

3. Effects of the Pittsburgh-Plus System

Producers were affected most under the Pittsburgh-Plus system through the possibility of higher prices and by the geographically wider range of operations which they were able to enjoy. The principal gainers under the system were the producers located at Pittsburgh who were enabled to ship to any destination in the country without absorbing freight. The producers located at points other than Pittsburgh were also benefited under the system by the higher prices they were able to charge in their districts, which made it possible for them to absorb freight in shipping back toward Pittsburgh and still make a profit. However, the overhead costs of producing steel are so high that it seems unlikely that the availability of high prices in districts distant from Pittsburgh was sufficient inducement to cause steel companies to locate or increase their capacity at such points as, for instance, Chicago. Volume of production is fully as important a consideration affecting profits as prices.

Although profits of producers at Pittsburgh, as well as in other districts, were increased by the system, there is no indication that the latter basically influenced the location of the iron and steel industry. The location of the industry is determined largely by the availability of raw materials, the expense of transportation of which is roughly five times as great as in shipping the finished product. Proximity to markets is another basic determinant of location, especially in the case of highly specialized finished steel products. These two factors combined account for the location of the greater part of the industry in the United States. In view of their importance it seems improbable that the Pittsburgh-Plus system exercised any basic influence on the location of the industry.

The effects of the Pittsburgh-Plus system were most apparent in the case of independent fabricators. These fabricators bought their steel at Pittsburgh-Plus prices and consequently were restricted in their sales largely to the territory immediately surrounding their plants or in a direction opposite from Pittsburgh. They could not compete vigorously with fabricators located in the Pittsburgh area who bought their steel at substantially lower prices. The amount of the competitive disadvantage which these independent fabricators suffered in comparison with their Pittsburgh competitors varied according to the profit margin on the finished product they produced and to the proportion of total cost which was represented by the cost of steel. The amount of scrap loss also affected the relative difficulties which these fabricators encountered under the Pittsburgh-Plus system. Scrap loss, in effect, increases the cost of steel to the fabricators.

The handicap of non-integrated fabricators competing with Pittsburgh mills was increased by the peculiarities of the railroad freight rate structure. The price differentials above Pittsburgh at various points

(*) Cf. Tables 46, 47, 54 and 56, Appendix.

in the country under the Pittsburgh-Plus system were set on the basis of through freight rates from Pittsburgh. However, on the steel which was bought then resold by fabricators located away from Pittsburgh, not the through rate from Pittsburgh was paid, but two rates for shorter distances: one on the raw material from Pittsburgh to the fabricator's mill to the market. The per mile freight rate on a single through haul is considerably less than the per mile cost of shipping a product the same distance by a combination of shorter hauls. Consequently, the non-integrated fabricators distant from Pittsburgh, who had to pay for shipping steel from Pittsburgh to markets by two short hauls, were at a disadvantage in competing with the Pittsburgh mills, who enjoyed a single through rate to markets.

Consumers at certain points in the United States, namely, those located outside of the Pittsburgh area, were forced, as a result of the Pittsburgh-Plus system, to pay higher prices than they would otherwise have done. At the same time, it is probable that consumers located in the Pittsburgh area paid less. The lower unit overhead costs which the Pittsburgh producers were enabled by the system to enjoy were probably reflected in lower prices to Pittsburgh consumers than would otherwise have obtained in that area. The desire of the Pittsburgh mills to maintain the system appears to have induced them at times to lower the Pittsburgh prices. (*) The net cost of the Pittsburgh-Plus system to the consumers of the country as a whole cannot be estimated. The difficulties which stand in the way of determining this cost include, among other factors, the uncertainty as to the extent to which the system was a reflection of economic conditions which, if the system had not existed, would have expressed themselves in other price formations with approximately the same results.

4. The Abrogation of the Pittsburgh-Plus System

The termination of the Pittsburgh-Plus system was hastened by essentially two events. During the war the War Industries Board fixed the price of steel products and in doing so made the price at Chicago equal to that at Pittsburgh. After remaining at this level for several months the price at Chicago was restored to its old level on July 1, 1918. In addition, the continuance of the system was further affected, immediately following the war, by the general increase in freight rates which took place over the entire country. Prices to consumers were raised under the Pittsburgh-Plus system by an amount equal to the increase in freight rates. (*)

Prompted by these two events, the restoration of the system following its suspension during the war and the increase in freight rates, the consumers in the Chicago area became more vociferous in their protests against the Pittsburgh-Plus system. Consequently, the Western Association of Rolled Steel Consumers for Opposing the Practice of Pittsburgh-Plus was organized and complaints against the practice were filed with the Federal Trade Commission. (**)

(*) Commons, John R., "Delivered Price Practice in the Steel Market", 14 American Economic Review, p. 509 (September, 1924).

(**) Ibid.

The bases of the complaint brought by the Federal Trade Commission against the Steel Corporation were that the corporation was large enough to be able to control substantially the prices of the industry and that it had maintained the Pittsburgh-Plus system for essentially monopolistic and discriminatory reasons. (*) The second contention was based on the complaints of rolling mills and fabricators located away from Pittsburgh, i.e., that they were unable to compete with the Pittsburgh mills for the reason that the latter could purchase steel cheaper than non-basing point mills, which had to pay an element of fictitious freight in their prices. Furthermore, the Commission claimed that the Pittsburgh-Plus prices were unfair to independent purchasers because the integrated steel mills, which competed in many cases with their customers in the sale of finished products, transferred the semifinished forms for rolling to their rolling department below the selling price. (**) The attempt was made in the proceedings to show that, in addition to the Pittsburgh-Plus system, the delivered price system itself was an essentially monopolistic device and that the only competitive method of pricing was f.o.b. mill. This contention was based upon testimony that the fact that steel mills were able to charge their customers di ferent prices depending upon their location and thus "discriminate" indicated the absence of competition. A competitive price was considered to be a price uniform to all buyers at the point of sale. (***)

To refute these charges the Steel Corporation tried to show that the Pittsburgh-Plus system resulted essentially from the fact that the rest of the country was largely dependent upon Pittsburgh for its steel. (****) It contended that competition was substantially increased by the system because it enabled producers located in almost any section of the country to compete with producers located in almost any other part of the country.(*****) The corporation also attempted to show that the delivered price system was not incompatible with price competition. It contended that the uniform delivered prices which the system institited were caused by competition. (******) Finally, the corporation sought to prove that the system did not place any handicap on the non-integrated rolling mills and fabricators not located at Pittsburgh. (*******)

(*) F.T.C. v. U. S. Steel Corp., et al. (Docket No. 760), Complaint, p.10.
(**) Ibid.
(***) F.T.C. v. U. S. Steel Corp., et al., (Docket No. 760), Complaint, p. 191 et seq.
(****) F.T.C. v. U. S. Steel Corp., et al., (Docket No. 760), Respondent's Answer to the Complaint, page 4.
(*****) F.T.C. v. U. S. Steel Corp., et al., (Docket No. 760), Respondent's Answer to the Complaint, page 6.
(******) F.T.C. v. U. S. Steel Corp., et al., (Docket No. 760), Respondent's Answer to the Complaint, page 5.
(*******) Ibid.

In short, the difference in points of view of the Federal Trade Commission and the Steel Corporation was a difference in their conception of competition. The Commission, on the one hand, maintained that competition and price uniformity should exist at the producing point or mill. The Steel Corporation, on the other hand, contended that competition among producers should exist at the delivery or consuming point. The latter condition was that which existed in the industry under the Pittsburgh-Plus and delivered price systems, namely, that prices of all producers were uniform at each delivery point, but varied at the mill according to the location of each customer. The Federal Trade Commission found that the Pittsburgh-Plus system substantially restricted competition and discriminated against fabricators and consumers located away from Pittsburgh. (*) Consequently, it issued on July 21, 1924, a cease and desist order against the main subsidiaries of the corporation, restraining them from charging Pittsburgh-Plus prices on plates, bars, structural shapes, sheets, tin plate, wire and wire products. The order also applied to selling these products upon any other basing point than that where they were actually produced or from where they were shipped. (**)

The Steel Corporation did not contest the order of the Commission in the courts. On the contrary, it "consented" to comply with it in so far as it was practicable to do so.

(*) F. T. C. v. U. S. Steel Corp., et al., (Docket No. 760), Findings as to Facts and Conclusions.

(**) F. T. C. v. U. S. Steel Corp., et al., (Docket No. 760), Order to Cease and Desist, July 21, 1924.

B. The Pre-Code Multiple Basing Point System

As a result of the Commission's order, a multiple basing point system was established. Basing points were established at a number of new points. The number of points varied somewhat for different products. For certain wire products, new basing points were set up at Chicago, Illinois; Birmingham, Alabama; Cleveland, Ohio; Anderson, Indiana; Duluth, Minnesota; and Worcester, Massachusetts. (*) New bases were established for tin mill black plate, tin plate, sheets and strips at Chicago. Cold-rolled strips were also based thereafter at Cleveland. (**) Less effect was felt in the establishment of new bases for semi-finished and heavier finished products than for the lighter finished products. Basing points had already existed prior to the Commission's order on plates, shapes and bars at Chicago and Birmingham. In addition, prices on billets, blooms, sheet bars, wire rods and skelp had been quoted regularly on a Youngstown base prior to the order.(***)

New basing points were not established as a result of the order in the eastern part of the United States. The producing capacity in this section was closely held by the Bethlehem Steel Corporation. This company was not affected by the Commission's order against the United States Steel Corporation except that the lowering of prices in other parts of the country was reflected to slight degree in the price reductions in this region. (****)

The industry did not observe the order of the Commission in the strictest interpretation of the word. While new basing points were established the old practice of quoting prices on the basis of points other than those of actual production continued in modified form. The only differences was that prices were under the multiple basing point system and were quoted on the basis of the lowest combination of the price at any basing point and freight to destination instead of Pittsburgh.

In addition, the prices at some of the newly established basing points continued to be quoted in relation to the price at some of the other basing points. Although a number of new basing points were established for wire products, the prices at most of these points did not move independently but bore a definite relationship to the prices at Pittsburgh and Cleveland. (*****) The price at Cleveland thereafter

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(*) Federal Trade Commission. In the matter of the Bethlehem Steel Company, Docket 962. Cf. also the "Iron Age" for September 23, 1924.

(**) Cf. Tables 50, 51, 53, and 55, Appendix.

(***) Cf. Tables 46, 47, 48, 49, 54, and 56, Appendix.

(****) Cf. Federal Trade Commission, in the matter of the Bethlehem Steel Corporation, Docket 962.

(*****) Cf. Iron Age, 1925.

was quoted as the same price as Pittsburgh, However, the price at Chicago was quoted as a differential over the above price of $2.00, the price at Birmingham of $3.00, the price at Worcester of $3.00 and the price at Duluth of $4.00. The differential at Duluth in November, 1924 was reduced to $2.00. The price at Anderson, Indiana, was quoted at a differential of $1.00 over Pittsburgh and Cleveland. The differential at Chicago in July, 1925 was lowered to $1.00 per ton over the above two points. The prices of wire products continued to be quoted in relation to Pittsburgh and Cleveland until the adoption of the code.

Prices at the new basing points were much less than they had been under the Pittsburgh-plus system. The price of wire nails at Birmingham was reduced $0.48 per keg or about 16% of its former price. The price of nails at Duluth was $0.45 less than the Pittsburgh-plus price. The effect at Chicago was a reduction of $0.29. These declines were typical for all products which had been sold on a full Pittsburgh-plus basis prior to the order. (*)

In the years which followed the abrogation of the Pittsburgh-plus system, it appears that there was a considerable growth in the number of basing points. This conclusion may be drawn by examining the points in the Iron Age where f.o.b. prices were quoted. These points were basing points. It is probable that there were other points not quoted in the Iron Age which were also basing points. The statements of industry members that the code only sanctioned the existing basing points seems an indication of this situation because the number of points listed under the code was substantially greater than those for which prices were quoted in the Iron Age. It seems likely that this trade journal quoted prices as a practical matter only at points where sales were recorded in sufficient volume to warrant the service to producers and consumers of reporting the prices. This tendency probably appeared more in the case of the semi-finished products which are sold in comparatively small volume than in the case of finished products which are consumed by the producing companies to a very small extent.

Beginning about 1926 the practice of quoting f.o.b. prices was adopted for a number of additional points. (**) After January, 1926 the price of plates was quoted regularly f.o.b. docks Pacific Coast ports. Coatesville, Pennsylvania and Sparrows Point, Maryland became price points for these products in December, 1927. At the same time Lackawanna, New York, became a point for the regular quotation of these prices. In January, 1926, again the practice was adopted of quoting the prices of soft steel bars f.o.b. Pacific Coast ports and San Francisco mills. F.o.b. prices on soft steel bars were first quoted at Cleveland in December of the same year. In December, 1927, the practice was extended to Lackawanna, New York. The prices of structural shapes were first quoted f.o.b. Bethlehem in December, 1927.

(*) Federal Trade Commission, Bethlehem-Lackawanna merger, Docket No.962.

(**) Cf. Tables 46, 48, 49, 52, 53 and 55, Appendix.

The practice was adopted at Lackawanna, New York at the same time. The price of galvanized sheets was first quoted f.o.b. Birmingham in November, 1926. F.o.b. quotations on this product first appeared at Cleveland in November of the following year. Cleveland and Chicago appeared as points for quoting the prices of blooms and billets for the first time in November, 1928. F.o.b. prices first were quoted on tin plates at Gary in November, 1925.

The adoption of the practices of quoting prices f.o.b. the above points indicate the tendency toward the increase in the number of basing points in the pre-code period. However, it does not permit the conclusion to be drawn that other places were not also basing points.

The geographical price differentials among the pre-code basing points varied considerably according to products. (*) In the case of tin mill black plate the price at Chicago was about $4.00 per ton over Pittsburgh between 1924 and 1926, and thereafter it was about $2.00 over Pittsburgh. Essentially the same differential obtained for tin plate. Similar price differences were characteristic of the price of plates, shapes and bars in the pre-code period. In the case of hot-rolled annealed sheets the differential for eighteen months immediately prior to the adoption of the code at Chicago was $2.00 per ton over Pittsburgh while at Birmingham it was $4.00 per ton. The differential in the price of cold-rolled strip over Pittsburgh at Worcester, Massachusetts, during most of the pre-code period averaged about $3.00 per ton. While the price differentials between basing points were on the whole, characteristic of the finished steel products, the prices of the semi-finished steel products were generally the same at all basing points. For example, the prices on blooms and billets at Pittsburgh, Youngstown and Cleveland were identical almost without exception from the time that they first appeared in the Iron Age. A similar situation obtained for sheet bars and wire rods. In the latter case, the price at Chicago was on the whole $2.00 per ton over the price at Pittsburgh, Youngstown and Cleveland. Skelp prices from 1919 at the present time have been quoted as the same price for both Pittsburgh and Youngstown.

These price differentials between basing points in finished steel products were not rigid but fluctuated to some degree from time to time. For example, the differential at Chicago over Pittsburgh varied between $2.00 and $6.00 per ton. The differential between Chicago and Pittsburgh on tank plates varied between $3.00 and $6.00 per ton. The differential on soft steel bars between these two points varied from nothing to about $3.00 per ton. (**)

The reason for the geographical price differentials in the case of finished steel products and their absence in the case of semi-finished products is to be seen in the significant differences in the

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(*) Ibid

(**) Ibid

areas of distribution. The former are sold over wide market areas while the sales of the latter are confined more to local areas. This situation arises from a number of factors. First, the finished steel products are largely consumed in the producing companies. The former, because they are sold in much larger quantities, must be distributed over wider areas than the latter. Furthermore, the markets of the latter as such are much nearer to the producing points than in the case of the former. The purchasers of the semi-finished products are those non-integrated rolling mills and fabricators which tend to locate near the producing points for their raw material on account of the expense, among other factors, of having to pay freight on that part of their raw material which is converted into scrap as a by-product of the process of manufacturing finished products. A further inducement to ship finished steel products much further than their raw materials is the fact that the former represent a much higher value in proportion to their shipping cost than the latter. The restriction of freight costs upon ability to ship long distances is consequently not felt nearly so keenly in the former case as in the latter. Finally, there is substantially more inducement for integrated concerns to lower their prices on parts of their sales of finished products and therefore absorb freight and sell to greater distances than there is in the case of semi-finished or crude steel products. First, there is a tendency for the overhead costs on some finishing operation to be somewhat greater than those of producing steel ingots. There is some tendency toward the duplication of steel finishing capacity among different companies that does not appear to the same degree in the case of steel ingot producing capacity. Secondly, it is much more advantageous for integrated steel producers to compete in the sale of finished products in distant markets even at the expense of absorbing freight than it is to seek sales at the same distance in semi-finished products. Sales of the former products by integrated concerns increase the production of the latter with the result that the unit overhead costs both of the finishing capacity and the steel-producing equipment are reduced. Consequently, it may be profitable for integrated firms to sell their finished products at little more than cost in order to increase the production of crude steel. On the other hand, the sales of semi-finished or raw steel products have no effect in lowering the unit overhead costs of any producing facilities more advanced in the process of manufacture than those by which they are produced. For the above reasons, mills tend to distribute their finished steel products over much wider areas than their semi-finished goods.

As a result of the incentive to increase the marketing and distributing areas for finished steel products horizontal combinations have been more inclined to maintain differentials at certain points to facilitate this practice than they have in the case of semi-finished products. The differentials have for the most part existed at points where the horizontal combinations have important plants and consequently are in a position to have substantial influence over prices. Chicago, Birmingham, Worcester, Cleveland and certain eastern cities are points where the horizontally integrated companies as a group have important producing plants (*). Although these concerns also have large producing facilities for their semi-finished products at the same points they have not chosen to follow

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* Maps 1-19.

the same practice in regard to the prices of these products. The reason appears to be that the advantages of doing so are much less and furthermore, the necessity for maintaining geographical price differentials in order to bear the cost of shipping to distant markets in much less acute.

Essentially the same factors which led to the establishment of geographical price differentials for finished steel prices tended further to cause the adoption of a smaller number of basing points for those products than appeared in the principal producing section of the country in the case of semi-finished products. Competition for sales in the case of the former product tends to take the form of freight absorption to more distant points as opposed to the reduction of mill prices while the latter is more typical of the semi-finished steel and iron products. The causes of this situation have been discussed above. The propensity of sellers of finished steel products to maintain their mill prices tends to lead them into the practice of quoting prices on more distant points and adopting fewer basing points. Consequently, it appears that the industry was influenced, in the number of basing points adopted, by the character of the distribution and pricing practices, for the products in question.

This situation is illustrated in the case of the number of basing points that appeared for finished and semi-finished products in the major producing section of the country, namely, that around Pittsburgh, Youngstown and Cleveland. (*) Youngstown was in the pre-code period a basing point for the semi-finished products, blooms, billets, skelp, wire rods and sheet bars as was Pittsburgh. Cleveland was also a basing point for all these products except skelp. The latter two places, Pittsburgh and Cleveland, were basing points as well for most of the finished products. Although Youngstown is a large producing point for many finished products, among them sheets and bars, and to a lesser extent plates, it appears that it was not a basing point for these products. The existence of basing points at Youngstown in the one case and their absence in the other illustrates the factors at work tending to establish them as discussed above.

The differences which foster shipments to long distances were most strikingly reflected in the pre-code period in the contrast between the basing point system in the steel industry and in the pig iron industry. The latter product cannot be shipped distances at all comparable with those in the case of steel. The reasons for the difference are to be seen, first, in the relatively low overhead costs of pig iron production which preclude the absorption of freight into total costs on the same scale as occur in the distribution of steel; secondly, the prices of pig iron partly in consequence of competition with scrap have declined to a point where the value of the product does not justify the expense of hauling to great distances.

Largely on account of these factors which have tended to restrict pig iron distribution to local areas a basing point system of the same type as in the steel industry did not develop in the sale of pig iron prior to the code. There is some doubt as to whether a basing point

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* Cf. Tables 46 - 56, Appendix.

system existed at all. The burden of the evidence appears to indicate that a basing point system did exist to some extent at least. It use, however, appeared to have been intermittent. Furthermore, the system as followed in the sale of pig iron was significantly different from that in the steel industry in that the number of basing points was far greater than in the latter case. (*)

In addition to the above factors it appears that the number of companies and the position of large companies in the industry had something to do with the number of basing points which existed in the case of different products. For example, it is not indicated by the price quotations in the Iron Age that Chicago was a basing point for pipe, skelp, and sheet bars, although substantial capacity for producing this product was available in the district. In the Chicago area there are units of horizontally integregated concerns which have their major plants for this product elsewhere. (**) The latter companies were in a position to influence the price at Chicago, probably enough to keep the price there at a level high enough to permit shipments from their other plants into the area without substantial freight absorption.

In addition to pipe, at Chicago, only a few points with important producing mills for certain products were omitted from the list of places for quoting f.o.b. prices in the Iron Age. Principal among these points was Chicago, Birmingham and Buffalo. Chicago prices were not quoted on sheet bars and skelp although considerable capacity was located there. Prices were not reported on sheet bars at Buffalo although an important plant existed there.

Throughout the pre-code period of the multiple basing point system a definite trend was discernible in addition to the increase in the number of basing points in the reduction in price differentials over Pittsburgh on finished products, at other points in the country. The customary differential over Pittsburgh at Chicago on galvanized sheets, which had been $4.00 per ton before 1929, was therefore reduced to $2.00 per ton. The differential on tank plates, which had been $4.00 to $6.00 per ton over Pittsburgh prior to 1923, was decreased by 1932 to about $2.00 per ton. These declining differentials were typical of other finished steel products. This change in price relationships was due in large part to the geographical shift in capacity from the East to the West which has been a long-time trend in the industry.

The basing point system in the pre-code period, according to the best available evidence was not adhered to rigidly. More or less open deviations from the system appeared. Many of these were in the form of price concessions to large buyers. Many of the departures were secret which practically precludes a statistical determination of the extent to which the system was observed or ignored.

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* Points for quoting f.o.b. prices, Tables 42 - 45.

** Cf. Map 9.

IV. THE CODE OF FAIR COMPETITION

The multiple basing point system was adopted by the code, approved on August 19, 1933, without undergoing any fundamental changes. The principal contribution which the code made to the basing point system was the establishment of certain implementing practices which substantially facilitated its operation. In addition, the code increased the number of basing points. These changes were beneficial to many of the interests affected. On the other hand, certain other interests appeared to have been hurt by the changes. While the code affected some interests by introducing too many innovations, it affected others by establishing too few. The protests and the nature and cause for the adoption of the code provision complained against are discussed in the following pages. In addition, the general effects of the basing point system on the industry as a whole are examined. The analysis which is undertaken is principally one to indicate the types of problems involved. No attempt has been made at this time, in view of the scarcity of time and facilities available, to reach determinant conclusions.

A. Code Provisions and Administration

The principal provisions and Code Authority resolutions and the nature of the problems with which they sought to deal are summarized in the following pages.

1. Code Provisions.

Briefly stated the Code established a multiple basing point system for most of the products within its jurisdiction. It established a basing point system for pig iron and ferro alloys which had not been sold consistently on the system before the code. The code designated what basing points were to be used for the sale of each product. (*) In the original code, approved on August 19, 1933, fifty-nine separate basing points were listed. (**) The number was increased to sixty-five in the amended code, approved on May 30, 1934. (***) In addition, the number of products, for which these places were made basing points, was increased somewhat. The basing points for each product after code amendment are shown in Table 39.

(*) Cf. Schedule F, Code for the Iron and Steel Industry, Codes of Fair Competition, Vol. I, p. 203.

(**) Cf. Practices of the Steel Industry under the Code, Senate Document No. 159, 73d Congress, 2nd Session, 1934, p. 17.

(***) Cf. Table 39.

Some of the principal provisions of the code were concerned with features which implemented the operation of the basing point system. These were as follows:

(1) An all-rail freight method of calculating delivered prices was established. (*)

This provision was adopted largely because the water freight rates were not standardized or codified. It was difficult to determine what the delivered price, calculated on the basis of water rates, would be at any one point. The basing point system is premised upon the assumption that delivered prices can be determined accurately and uniformly in relation to the cost of shipping from basing points. Consequently, the omission of this provision of the code would have seriously interfered with effective operation.

(2) An open-price filing provision was adopted. (**)

This provision required all producers to file prices at the basing point to which they were nearest. All prices were to be open to inspection by anyone at any reasonable time. It was provided further that:

> "The published base price for each such member for any product (except standard Tee rails of more than 60 pounds per yard, angle bars, and rail joints) for any basing point for such product other than that or those shown in the list of base prices so filed by such member shall be deemed to be the lowest base price for such product at such other basing point which shall be shown in the list of base prices filed by any other member of the Code and then in effect." (***)

The significance of this provision will appear later in connection with the Code Authority resolutions. (****)

The open-price provision was adopted, in part, to eliminate secret price cutting. This objective was a requisite for the operation of the basing point system. The system requires, before it can effectively function, information as to the base prices on which producers are

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(*) Cf. Schedule I, Sec. 4, Code for the Iron and Steel Industry, op. cit.

(**) Ibid. Sec. 3.

(***) Ibid.

(****) Cf. infra Sub-section 2.

supposed to quote in accordance with the basing point formula. If there is complete secrecy as to these prices the basing point system is meaningless.

(3) The code attempted to deal with the problem of fabrication -- in-transit, which had been very troublesome in the pre-code period, by providing that:

> "... in the case of plates, shapes, or bars intended for fabrication for an identified structure, for the purpose of establishing the delivered price thereof, the place of delivery shall be deemed to be the freight station at or nearest to the place at which such structure is to be erected, and not the shop of the fabricator." (*)

The effect of this provision was that the difference between the cost of the through haul on these products and the sum of the two short hauls, which formerly went to the fabricator, now went to the producer.

(4) The basing point system was in addition implemented by the establishment of definite rules with respect to the distribution of products through jobbers. The code provided that:

> "Before any member of the Code shall allow any such deduction to any jobber or sell for resale to any purchaser who shall not be a jobber any product pursuant to any permission so granted to such member, such member shall secure from such jobber or such other purchaser an agreement substantially in a form theretofore approved by the Board of Directors and filed with the Secretary whereby such jobber or other purchaser shall agree with such member (a) that such jobber or other purchaser will not, without the approval of the Board of Directors, sell such product to any third party at a price which at the time of the sale thereof shall be less than the price at which such member might at that time sell such product to such third party and (b) that if such jobber or such other purchaser shall violate any such agreement, he shall pay to the Treasurer as an individual and not as Treasurer of the Institute, in trust, as and for liquidated damages the sum of $10.00 per ton of any product sold by such jobber or such other purchaser in violation thereof." (**)

This provision was useful as an adjunct to the basing point system because it prevented defections of jobbers from the system. In addition, the code provided that the Code Authority should establish rules for determining who was a legitimate jobber and who consequently had a right to claim the jobbers' discount. This provision was as follows:

(*) Cf. Sec. 4, Code for Iron and Steel Industry, op. cit., p. 198.

(**) Cf. Sec. 4, Code for the Iron and Steel Industry, op. cit., p. 199.

"The Board of Directors (of the American Iron and Steel Institute, the Code Authority) shall prescribe such rules and regulations as it shall deem proper by which the question of whether or not any purchaser or prospective purchaser of any product for resale is a jobber shall be determined, and in granting any permission as aforesaid, the Board of Directors shall prescribe such rules and regulations in respect thereof as in its judgment shall be necessary in order to insure to the members of the Code that action in accordance with any such permission shall not result in an unfair practice...." (*)

This provision was important as an attempt to remove a feature of the pre-code pricing system which had tended to disturb the operation of the basing point system. The functions of jobbers and fabricators were frequently combined in one firm in the industry. Such a concern had a distinct advantage over competing fabricators which did not enjoy the benefit of jobbers' discounts. The objective of the code appeared to be, in part, to equalize the competitive opportunity of all independent fabricators in this respect.

In conjunction with the establishment of stringent regulations for implementing the system the code provided also for means by which exemptions from certain of the provisions could be granted. The original code provided that:

"... in any case in which such product shall be delivered by other than all-rail transportation, the member of the code selling such product may allow to the purchasers a reduction in the delivered price otherwise chargeable....at a rate which shall have been previously approved by the Board of Directors and filed with the Secretary." (**)

This provision was amplified in the amended code by the addition of the words, "equitable and necessary, in order that competitive opportunity to producers and consumers of products shall be maintained". (***) The Code further provided that:

"the Board of Directors, by the affirmative vote of three-fourths of the whole Board, may permit any member of the Code in special instances or members of the Code generally to sell or contract for the sale of any product

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(*) Ibid.

(**) Ibid, p. 198.

(***) Schedule E, Section 4, Amendment to the Code for the Iron and Steel Industry, Codes of Fair Competition, Vol. XI, p. 354.

produced by such member or members at a base price which shall be less than the then published base price of such member or members for such product at the respective basing points therefor of such members, if by such vote such Board shall determine that the making of such sale or contract of sale at such less base price is in the interest of the Industry or of any other branch of industry and will not tend to defeat the policy of Title I of the National Industrial Recovery Act by making possible the using or employing of an unfair practice." (*)

2. Administration

Facilities have not been available for examining the Code Authority resolutions and regulations and their effects. Consequently only the briefest mention is made of them here.

The Code Authority used its power to grant concessions below all-rail freight prices and base prices a number of times. For example, a concession was allowed on truck shipments to permit buyers obtaining steel in this way to buy it at 65% of the all-rail freight rate. In several districts concessions were granted from the all-rail price on steel products transported by water.

In addition to the concessions from the basing point and open price filing systems granted by the Code Authority, the latter significantly changed the pricing practice of the industry from the practice before the code. The provision of the code which prescribed that producers could deem as their price the lowest price filed at other basing points, where they themselves did not quote prices, was interpreted by the Code Authority to mean that producers must file prices not lower than the lowest filed prices at basing points other than the one nearest them.

The factors which were uppermost in the thoughts of the Code Authority in adopting this resolution may only be surmised. However, it seems likely that among them was the desire to prevent water shippers and small concerns located near the boundary lines (**) of the two basing point areas from taking advantage of the all-rail freight provision and the legal enforcement of the basing point system by cutting prices in selling from one area into another. The code increased the margin between the costs of delivery and the delivered price based on all-rail freight rates so widely at certain points that there was probably

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(*) Schedule E, Sec. 4, Code for the Iron and Steel Industry, op. cit., p. 199.

(**) It seems necessary to make clear that the basing point areas had no fixed boundary lines. By boundary lines is meant the line of price demarcation between basing point areas based upon the formula that the delivered price is the lowest sum of a base price plus freight to destination.

considerable lee-way for such sellers to cut prices. Similar lee-way for cutting prices was available to the comparatively small producers located at a considerable distance from the basing points. The willingness of water shippers and mills distant from basing points to cut prices by the amount of the margin between actual delivered prices and costs was determined (a) by the relative amount of their sales by water and by rail, and (b) by the proportion sold in the immediate vicinity of the latter mills at a high price as compared with the part sold to more distant points with considerable freight absorption. As the proportion of sales with a high margin between prices and costs was increased, it seems likely that the propensity to cut prices was greater. If this was so, the base prices in each area where these producers traded would have been driven down to a point approaching their costs. Price competition was limited entirely to base prices, and the price cut of one producer in an area had a tendency to extend to all producers, since none could compete from nearer the basing point toward the price cutter by absorbing freight. It seems likely that the action of the Code Authority in adopting this resolution was influenced by a desire to prevent such a development to the extent that it was caused by producers selling across the boundary lines of basing point areas.

3. Protests and Complaints

A substantial number of protests and complaints against certain features of the code indicated the wide diversity of interests and points of view involved in the basing point system. This section examines some of the most important protests from the points of view of the interests of both code members and purchasers. No attempt has been made at an exhaustive analysis due to limitations in time. The following examination is to be considered as a "type" study of the more important and representative protests and complaints.

(a) The inclusion of all-rail freight rates in delivered prices. (Schedule E. Sec. 4, Code for the Iron and Steel Industry, op. cit., p. 198)

This provision was one of the most objectional features of the code from the point of view of fabricators. The number of protests received was considerable. Most of these came from fabricators located on inland waterways, particularly the Ohio and Mississippi Rivers. A few were received from manufacturers who were accustomed to bring purchased steel to their mills in their own trucks.

Among other grounds, these protests were based upon the contention that the all-rail freight provision represented a substantial departure from the practice existing before the code. On the whole, in view of the substantial number and agreement of complainants, there seems little reason to doubt this assertion. The adoption of the provision, they claimed, vitiated and advantages which had been the impelling motive determining their location on waterways. Although it would appear that there is some justification for the protests on this basis, the full validity of the complaints can only be estimated when weighed with other

factors. First, the location of fabricators, particularly those engaged in manufacturing products where the cost of steel is a small component of the total price of the final product, is in most cases determined more largely by the location of markets than by raw material costs. Second, these fabricators, although they lost the advantages of cheaper raw material transportation costs, did not lose those connected with distributing their finished products by water.

> (b) The provision that "in the use of plates, shapes, or bars intended for fabrication in an identified structure, for the purpose of establishing the delivered price thereof, the place of delivery shall be deemed to be the freight station at or nearest to the place at which such structure is to be erected, and not the shop of the fabricator". (*)

This provision, although it was designed primarily to protect the interests of fabricators of plates, bars, and shapes, caused numerous protests. The substance of the protests was principally that the provision forced fabricators to divulge the identity of their customers to the large integrated concerns from which they bought plates, bars, and shapes, and which sold also the fabrications into which these products were made. The fabricators feared as a result that the integrated companies, which had natural competitive advantages due to their large size and prestige in the industry, would use their knowledge as to the identity of fabricators' customers to compete for the purchases of the latter. In reply to such protests, it was asserted that the fears that fabricators entertained concerning divulging the identity of their customers to their competitors could be justified only in those cases where fabricators asked for price quotations upon their raw material before entering into sales contracts with their customers. The extent to which fabricators indulged in this practice cannot be ascertained, but it seems unlikely that it was a general practice.

The protests of many of the fabricators may have been motivated by a desire to obtain a return of the advantages which they had enjoyed before the code under the fabrication-in-transit privilege. The fabricators, who enjoyed no advantages before the code from the fabrication-in-transit privilege, and who may have suffered a disadvantage in competing with those who did,, were probably in favor of this provision.

> (c) Power of the Code Authority to Determine the Qualifications of Jobbers. (Schedule E. Sec. 4, Code for the Iron and Steel Industry, op. cit., p. 199)

This provision was one of those adopted to cope with a problem relative to the operation of the basing point system which had developed before the code. As has been stated above, distribution by jobbers in 1935 accounted for only about 13% of the total sales. The facilities

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(*) Ibid. p. 198.

and time have not been available for a study of the protests which arose from this source, and consequently not even tentative conclusions may be reached. The provision seems to have been directed largely against concerns which combined the functions of jobber and fabricator in one unit and which consequently were able to make use of the jobbers' discount in competing with the fabricators who were not also classified as jobbers. If some concerns were injured because the provision removed their status as jobbers, other fabricators may have been benefited by the elimination of their competitors' advantage.

(d) Open price filing provision (Schedule E, Sec. 3, Code for the Iron and Steel Industry, op. cit., p. 198).

The complaints which were made against the open price filing system came almost entirely from jobbers and small concerns which contended that customers always buy from large concerns if the prices of all sellers are the same, as they tend to be under an open price system, and that consequently small concerns should be allowed to sell without divulging their prices to their competitors.

(e) Number and Location of Basing Points.

The effects of the code in causing new protests and complaints by attempting to solve older problems are further discernible in the complaints about the establishment of new basing points. Most of these complaints were received from the territories surrounding Pacific and Gulf ports. In the original code, Mobile, Alabama; New Orleans, Louisiana; and Orange, Port Arthur, Beaumont, Baytown, Galveston and Houston, Texas, were made basing points on the Gulf Coast. (*) On the Pacific Coast, San Pedro, and San Francisco, California; Portland, Oregon; and Seattle, Washington (and San Diego, California, for plates and structural shapes only) were made basing points. (**)

The establishment of these points as basing points gave rise to considerable protest from fabricators located within the area of the basing points, but not at the points themselves to the effect that they were subjected to a competitive disadvantage from the fact that their competitors located at the basing points could buy more cheaply than they. These protests were partially adjusted by the addition of Gulf Port basing points at Lake Charles, Louisiana, and Corpus Christi, Texas, and of the Pacific Coast basing points at Long Beach, Stockton, and Sacramento, California, and Everett and Bellingham, Washington. (***)

(*) Schedule F. Code for the Iron and Steel Industry, op. cit., p. 203-205.

(**) Ibid.

(***) Cf. Schedule F, footnotes 1 and 2, Amendment to the Code for the Iron and Steel Industry, Codes of Fair Competition, Volume XI, p. 350.

In addition to the protests of this character from the Pacific and Gulf Coast ports, others arose from the establishment on the discussions about establishing basing points at mid-western points. For example, St. Paul, Minnesota, fabricators complained when Duluth, Minnesota, was made a basing point for merchant bars. This protest was not adjusted. Similarly fabricators at Lansing, Michigan, complained when the establishment of a basing point for strips at Detroit was talked about. The latter never actually took place.

These complaints are typical. The basing point fabricators obtain an advantage. The competitive difficulties of the non-basing point fabricators are substantially increased because they pay a higher differential price relative to their basing point competitors than before the establishment of a basing point in their vicinity. The reason appears in the fact that the cost of shipping a short distance is proportionately much greater than that of shipping a long distance. Thus if two fabricators had, for example, a differential of $1.00 per ton between their plants when basing upon a distant point the differential might easily become $2 per ton if a basing point were established at one of them. Such results must be considered an almost inevitable result of the increase in number of basing points.

In addition to the complaints that were received against the establishment of new basing points, a number were made to the effect that the code did not go far enough in establishing new basing points. Principal of these were those directed against the omission of Johnstown, Pennsylvania, Detroit, Michigan, Youngstown, Ohio, and St. Louis, Missouri. The complainants considered themselves entitled to a basing point on the ground that producing capacity was located near their mills. The interests concerned and the probable effect of the adjustment of these complaints is presented in the following discussion.

(1) Johnstown, Pennsylvania.

The protests from Johnstown were based principally upon the fact that capacity existed there for pig iron, plates, bars and wire, and that Johnstown was a considerable distance from the nearest basing point for these products, Pittsburgh (or Neville Island, near Pittsburgh). The protests were directed especially against the omission of the city as a basing point for pig iron. It was claimed that the amount of pig iron capacity at Johnstown greatly exceeded the amount at some other basing points. This seems borne out by an examination of the available data. There is at Johnstown 1,665,000 tons of pig iron and ferro-alloy producing capacity. This amount of capacity is greater than that at 16 of the 22 basing points for these products. (*) Furthermore, Johnstown is located 60 miles from Neville Island. (**) Although located

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(*) Cf. Table 12.

(**) Cf. Report of the National Recovery Administration on the Operation of the Multiple Basing Point System In the iron and Steel Industry November 1934, p. 12.

60 miles from its basing point, Johnstown has far more producing capacity than any other point in its basing point area. Its capacity amounts to almost half the total capacity of its area. Neville Island, the basing point itself, has a capacity of only 180,000 tons as compared with 1,665,000 tons for Johnstown. (*) It may be tentatively inferred that on the basis of the size and distance of Johnstown from a basing point it was entitled to be a basing point for pig iron.

An added substantiation of this hypothesis may be obtained by examining the cost structure of production and transportation for pig iron. The costs of making pig iron predominantly direct costs. Consequently, the freight absorption which producers can incur in shipping is comparatively limited. The area of distribution is further restricted by the low price of pig iron in proportion to its cost of shipping. The small amount of freight absorption and the limited area of distribution tend to induce producers located at any one point to reduce their prices and keep competition out of their immediate markets. Consequently, it may be tentatively inferred that the code established a differential at Johnstown over Neville Island somewhat higher than would have otherwise occurred and that the differential permitted distribution of pig iron over somewhat wider areas than had existed before the code, with the result that the total costs to the consumer may have been increased.

On the other hand, the amount of the price differential at Johnstown over Neville Island would, in any event, have been affected by the proportion of pig iron at the former place which is produced for consumption without sale. If the pig iron is mainly consumed in the producing company there is little reason for keen competition and consequently the price tendencies which otherwise might have developed as described above would not have appeared. Little indication of the proportion of the output of pig iron at Johnstown which is consumed by the producing company may be obtained from the available data. Most of the capacity in Johnstown produces pig iron both for consumption and sale. (**) Consequently, the data do not permit of any final conclusion in this respect.

The effects of the establishment of a basing point at Johnstown would be determined in some degree by the number and relative position of companies at that point. Pig iron capacity there is highly concentrated in the hands of one concern, a horizontal combination which might be in a position to exercise considerable influence over the price.

(*) Ibid.

(**) Appendix C. Report of the NRA on the Operation of the Basing Point System in the Iron and Steel Industry, Nov. 1934, p. 8.

However, it seems unlikely, in view of the factors which tend to cause low pig iron prices, that even if it were able, this concern would maintain a very high price differential at its plant over that of surrounding producing centers.

The protests of the Johnstown interests against the omission of Johnstown as a basing point for plates, shapes, merchant and concrete reinforcing bars, and drawn wire were not so well founded as in the case of pig iron. The capacity for making these products at Johnstown is as follows: plates 275,000 tons; shapes 6,000 tons; merchant and concrete reinforcing bars, 550,000 tons; and drawn wire 89,300 tons. (*) These amounts of capacity represented almost 12%, 4%, 12.5% and 7.6% of the total capacity in the basing point area, Pittsburgh, in which they were situated. So small were these producing capacities in proportion to the others in the area that it seems likely that producers would have chosen to follow price leadership instead of embarking upon an independent price policy with the possible consequences of keen price competition. If that were the case, the failure of the code to recognize Johnstown as a basing point for these products had little or no effect upon the price differential there with respect to Pittsburgh.

This tentative inference is further borne out by examining the cost structure of producing these products. In contrast with pig iron, finished steel products such as these, have comparatively high overhead costs and low freight costs in proportion to value, which tend to induce competition among producers somewhat more by absorbing freight than by reducing mill prices. Consequently, it appears that the establishment of a basing point for these products at Johnstown would have had less effect in causing a price reduction than in the case of pig iron.

(2) Youngstown and Cleveland, Ohio.

The protests against the omission of Youngstown and Cleveland as basing points for sheets appeared to strike at a major difficulty of the code in establishing and locating basing points. The amount of sheet capacity in the Youngstown district was approximately equal to that surrounding Pittsburgh, while that in the Cleveland and Youngstown districts combined far exceeded that around Pittsburgh. (**) This situation was reflected in the geographical distribution of the sheet capacity of the Pittsburgh basing point area, in that 62.3% of the capacity was located more than 50 miles from Pittsburgh. (***) Prior to

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(*) Ibid, pp. 93, 81, 54, and 178.

(**) Cf. Map 12.

(***) Report of the National Recovery Administration on the Operation of the Multiple Basing Point System in the Iron and Steel Industry, November 1934, p 10.

the code Youngstown had based upon Pittsburgh, and it continued to do so under the code. However, it appeared that Cleveland before the code was a basing point for sheets and was removed as such by the code.(*)

The reason the code established a single basing point for this area, although there had been two, appears to lie in the geographical distribution of capacity and sales. These three points are located in close proximity to each other, so that the capacity of all three of them as a whole tends to form a geographical unit or entity of its own. The objections that may be raised to the establishment of a single basing point for a concentrated group of firms are somewhat less than for establishing a single basing point for producers widely scattered over the country. A single basing point would be more in accord with the natural inclinations of the former group than the latter. If the former compete rigorously with each other there is danger that prices may be drawn down to a point that none can make a profit and consequently they are prone to adopt a practice of price leadership centering about a single or at most a very small number of basing points.

The tendency of producers located comparatively close together to quote prices based upon a single point is further intensified in the sale of a finished product such as sheets. The cost structure of production and transportation of finished products is such that there is a strong inducement for the producers of these products to compete by the absorption of freight rather than by lowering mill prices. The propensity of these producers to compete in this fashion tends to lead them to price upon the basis of distant points - a practice which is conducive to the establishment of one or a very small number of basing points.

The location of the single basing point within this region at Pittsburgh instead of at a more central location, for example, Youngstown, was probably motivated by the broad geographical pattern of distribution from Pittsburgh. The Pittsburgh district is able to consume according to estimates only approximately one-third of the total production of the district. Consequently a large part of the output of the area must be shipped a comparatively long distance to markets. A large part of the production is distributed in Ohio in the direction of Youngstown and Cleveland and to some extent in Michigan. (**) The sheets are in large part sold to the automotive industry. It seems likely, therefore, that the establishment of a basing point at Youngstown or Cleveland would have forced a considerable increase in the freight absorption of the Pittsburgh mills.

On the other hand, while there were extenuating reasons for the establishment of Pittsburgh as a basing point for all of this territory, the merits of the complaints as such cannot be minimized. The estab-

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(*) Cf. Table 53.

(**) Cf. Table 41.

lishment of new basing points in the Great Lakes Region was in line with the trends in the industry which had appeared in the pre-code period. To this extent it appeared that the code interfered with a fundamental tendency in the industry.

(3) Detroit, Michigan.

The protests against the omission of Detroit as a basing point for strips were significant also in that they arose from only one of the many interests concerned. The automobile industry was during the depression one of the largest consumers of steel products. The ability to market products in the Detroit market in competition with fabricators located in the vicinity of Detroit or Cleveland, where many of the automotive parts producers are located, was consequently highly important to many producers and fabricators located in various parts of the country. For example, a considerable part of the steel sold in Chicago was fabricated into frames and parts for the automobile industry and shipped to Detroit. It may have been felt that the establishment of a basing point at Detroit would have had the effect of causing substantial price reductions at that point. If a basing point had been established there with this result, the competitive position of independent fabricators of automotive equipment located at Chicago might have been seriously impaired by the increase in the amount of freight absorption that they would have had to incur in reaching the Detroit market. It might consequently have been necessary for producers of strips at Chicago to reduce their prices in order that their customers would have sufficient margin between their raw materials and finished product prices to permit them to continue to sell in the Detroit market by absorbing more freight. While the reduction of prices at Detroit is a contingency that might have occurred as a result of making it a basing point, no conclusions that this would necessarily have happened may be drawn. On the other hand, it may be inferred that the reputed excess of consumption and production at Detroit might have mullified the effects of the establishment of a basing point there. However, it appears likely that such a line of thought as has been developed here was a contributory reason, among others, which led to its omission.

(4) St. Louis, Missouri.

The claims for the establishment of a basing point at St. Louis for plate bars and shapes were based principally upon the competition which fabricators there experienced from other points nearer basing points, principally Chicago. The same considerations are involved in determining the validity of these protests as were discussed with respect to the omission of Johnstown, Pennsylvania as a basing point for the same products. The amount of capacity for shapes and bars at St. Louis is very small in comparison with that at Gary where its prices were based. (*) The number of producers is, furthermore, very small.

(*) Cf. Map 4 and 15.

(f) Price Differentials Between Basing Points

The protests received were concerned, not only with special aspects or features of the basing point system, but with the behavior of prices at basing points. Most of these protests were directed against the existence of substantial price differentials at certain basing points over others, particularly in the case of those points which were newly made basing points by the code. The principal protests of this type came from Pacific and Gulf Coast ports. For example, an El Paso fabricator objected that he could buy plates from Sparrows Point, Maryland, practically as cheaply as from Houston, Texas, which was a basing point. A purchaser on the Pacific coast claimed that the price of wire rods there represented a differential over Pittsburgh amounting to the full freight, in spite of the fact that San Francisco was a basing point.

The contention that substantial differentials in prices between these points and Pittsburgh did exist may be substantiated by an examination of the price tables. (*) The differential on wire rods at Pacific Coast ports over Pittsburgh was $9.00 per ton and the differential at Galveston was $5.00 per ton. The differential on tank plates at Gulf ports was $5.00 per ton over Pittsburgh and $6.00 per ton over Sparrows Point, Maryland. These differentials were typical of those that existed at these points over Pittsburgh and other eastern producing centers.

The production at these points presumably is considerably less than the consumption. The producing capacity is insignificant in comparison with the rest of the country. The reason for the establishment of basing points at these places appears to have been, not the existence of substantial producing facilities, but the apprehension of foreign competition. The failure of price differentials at these points to decline was, therefore, not necessarily due to any attempt to maintain prices at artificial levels, but possibly to the failure of foreign competition to develop as keenly as had been expected.

As a result of the limitation in time and facilities it has not been possible to evaluate the amount of the differentials at these points over Eastern producing centers. No verification of the charge that the differentials bare a relation to Pittsburgh prices by the amount of the freight to the Pacific Coast in the one case and to Sparrows Point prices, by the amount of the freight to Houston, in the other has been attempted. It may be surmised that the Pacific and Gulf ports receive the marginal amount of their consumption from Eastern producing centers and that consequently the prices at these points would naturally tend to assume a differential over Eastern points, modified by foreign competition, approximating the freight cost.

The existence of a price differential on several finished products at Birmingham and Pittsburgh was the source of additional complaint. The protests were concerned with the fact that these differentials remained while the price of billets, a semi-finished product, was the same as at Pittsburgh. The accuracy of the statements of the protestants is borne out by an examination of the price statistics. (**) For example,

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(*) Cf. Tables 49 and 56. (**) Cf. Tables 46-56

had been in the pre-code period, for the basing point producers (for the most part the larger mills) to absorb freight in competing with those situated in the out-lying part of their basing point area, which were on the whole smaller plants. The result of this situation was that price reductions such as had occurred for special interests or points before the Code were either not made or passed on to all customers within a basing point area by the lowering of base prices.

The elimination of arbitrary and indiscriminate freight absorptions was particularly important in competition in which the all-rail freight rate was formerly not used to determine delivered prices. The price at certain points was raised considerably out of proportion to the costs of distributing by water by this provision. It appears likely that consequently the producers who were able to take advantage of water facilities in distributing a large part of their output may have been induced by the margin between costs and prices to file lower prices than the producers who were handicapped by the necessity of shipping most of their sales by rail. Before the code the latter might have competed with the former by maintaining their basing point prices and simultaneously absorbing freight in the areas where the price was effected by water transportation. Under the code, however, when producers could quote delivered prices at any point only in relation to their base prices they were forced to set base prices to a point where their all-rail freight differential at any point in the basing point area would permit them to meet the competition of water-shippers. Consequently, it appears that although the all-rail freight provision may have caused certain producers to charge somewhat more fictitious freight than they otherwise would have done, it also may have worked the other way and forced reductions in base prices sufficient to permit basing point producers to compete with the out-lying producers or water-distributors by adding to their base prices the full amount of the all-rail freight differential.

These characteristics of the pricing practice established by the code appeared to have significant results upon price movements under the code. Principal of them was the fact that price cuts of any single producer seemed to be adopted quickly by all producers within any basing point area where they occurred. This character of the price movements at basing points was probably furthered by the ten-day waiting period for filed prices.(*) However, it seems that the basing point system itself was also influential in this respect. The number of price reductions of this character was considerable.(**)

The elimination of some of the irregularities which had existed in the pricing practices before the code was probably an influence toward the reduction of the price differentials that had existed between certain basing points before the code. The eradication of the practice of granting concessions to special customers at points such as Chicago probably caused a more open competitive situation to develop, which, on account of the

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(*) Schedule E, Sec. 2 Code for the Iron and Steel Industry, op cit. p. 197.

(**) Cf. Price filing cards of the Code Authority.

comparatively large margin between prices and costs at these points outside Pittsburgh, appears to have intensified the tendency already existing prior to the code toward lowering the price differentials with respect to Pittsburgh. Only partial responsibility can be assumed by the code for these reductions, since the tendency was already apparent in the pre-code period. Typical of the reductions in price differentials at Chicago over Pittsburgh were those on tank plates, soft steel bars, and shapes. The price differential on tank plates between those two points had, for a considerable period before the code, been about $2.00 per ton. On October 3, 1933, it became $1.00 per ton, at which point it remained for the duration of the code. (*) The price differential at Chicago over Pittsburgh on soft steel bars had also been about $2.00 per ton immediately prior to the code. However, on the effective date of the code, August 29, 1933, the price at Chicago dropped $1.00 per ton, making the differential over Pittsburgh only $1.00 per ton, where it remained for the rest of the code period. (**) A similar movement occurred in the case of the Chicago differential on structural shapes. The difference in this price between Chicago and Pittsburgh had been $2.00 per ton before the code, but on the effective date of the code, August 29, 1933, dropped to $1.00. (***)

In addition to establishing a uniform practice for calculating delivered prices under the basing point formula, the code established an orderly system of pricing with respect to filing base prices. Prior to the code it seems that difficulties had been experienced with secret price-cutting. With secret price cutting it was sometimes impossible for producers to know what the base prices were on which they were supposed to quote delivered prices according to the basing point formula. As a result there was a tendency for the basing point system as an effective instrument of pricing to break down. By giving wide publicity to base prices the code remedied this difficulty. The filing of open prices was an essential factor in the basing point system.

2. Number of Basing Points.

In addition to changes in the character of the pricing practices under the basing point system, the code introduced changes in the system itself, namely, in the establishment of additional basing points. These points, it seems, were added principally in the Middle West and the Great Lakes region. Most of them, it appeared, were established for the semi-finished steel products. The main indication of the number of new basing points that were established by the code is obtained by examining the places at which f.o.b. prices were quoted in the Iron Age before and after the adoption of the code. The principal points at which new quotations appeared were the following: Gary, Buffalo, Detroit, Duluth and Birmingham for billets and blowers; Anderson, Indiana, San Francisco, California, Galveston, Texas, Birmingham, Alabama and Worcester, Massachusetts for wire rods; Buffalo, Canton, Ohio and Sparrows Point, Maryland for sheet bars and Chicago, Coatesville, Pennsylvania and Sparrows Point, Maryland for skelp. The inauguration by the Iron Age of reporting f.o.b. price quotations at those points following the adoption of the code

(*) Cf. Table 49. (**) Cf. Table 48. (***) Cf. Table 52.

is not conclusive evidence that they were not also basing points prior to the code. However, it is indicative. Substantiating evidence of the increase in the number of basing points is provided by the statements of customers in regard to the establishment of new basing points. For example, statements of customers indicated that Gulf ports were new basing points for a number of products, including bars and shapes, and Duluth for merchant bars and billets.

The basing points sanctioned by the code were more numerous for the iron and semi-finished steel products than for the finished steel goods. Particularly was this true of the basing points that appeared to be newly established for steel products. On the whole the proximity of producing capacity to basing points in the case of iron and semi-finished steel products was substantially greater than in the case of the finished steel goods. Competition for sales in the case of pig iron and semi-finished steel products tends to take the form of reductions in mill prices much more than in the case of finished steel products. The producers of the latter, due to factors which have been discussed above, are more inclined to absorb freight in order to increase sales rather than reduce their mill prices substantially. Consequently the number of the basing points which the industry tends to adopt of its own accord is somewhat less in the case of finished steel than in the case of iron and steel semi-finished products.

V. CONCLUSIONS

As a result of the scarcity of time and facilities available in making this study no attempt has been made to draw any final conclusions. The principal conclusions that might be drawn at the present time are of the character of suggestions for future work and not findings. These suggestions have been summarized in Appendix I.

APPENDIX I

METHODS EMPLOYED IN THE REPORT ON CONTROL OF GEOGRAPHIC PRICE RELATIONS AND FURTHER LINES OF ANALYSIS NECESSARY TO COMPLETE THE STUDY

The methods employed in this study can be divided into two classes. In the first class belong the methods relative to fact-finding and the gathering of information necessary to give a general picture of the trade practices to be studied and their significance within the framework of the industries which used them. The second group of methods embraces the technique of statistical and economic analysis of the effects of the operation of the practices reviewed.

As to the fact-finding methods, the first step taken was an examination of all NRA codes as to geographic pricing practices which might be contained in them. After a selection was made of those industries of which the limited time and personnel available would permit investigation the collection of industry information was started on a broad front in order to gain a clear picture of the economic background and structure, the types of operation and distribution, and other problems essential to these industries. This was necessary, as any special set of trade practices could be truly appreciated only in connection with a correct understanding of both the technical and economic operations of the industry reviewed. For the purpose of collecting such information, all available NRA materials were used. The transcripts of public hearings on the original code and on later code amendments and other NRA problems constituted a source of valuable and pertinent data. In many cases, the old Research and Planning Division had prepared industry reports and statistical analyses which could be drawn upon. An important part of the work consisted in an examination of all the materials contained in the files of the various branches of the old NRA organization. The files of the deputy administrators, of the respective code advisers in the Research and Planning and Legal Divisions, of the Consumers' and Industrial Advisory Boards, of the Compliance Division, and other divisions furnished documents such as letters, briefs, applications, protests, and complaints, which threw light on specific industry problems. All of these documents were digested systematically in order to make later reference to them as simple as possible. In addition to NRA materials, the sources used included publications of other government agencies, trade journals, scientific magazines, pertinent monographs and books and, specifically, all sources of industry statistics as published by government agencies and trade associations. In some instances it was found necessary to go back to the dockets and files of the Federal Trade Commission, in order to gain information not available in published form.

Personal contacts with industry members and former code authority and trade association officials, who were visited partly in Washington, and partly on field trips to other parts of the country constituted an important method of general and specific fact-finding.

The second group of methods employed, of economic and statistical analysis, related to a study of the structure of production and distribution of the industries under review; that is, more specifically volumes of production, shipments, cost elements, prices and profits. Only a very small part of these topics of investigation could be covered in the present report, due to distinct limitations of time and personnel. The following lines attempt to give first a picture of the full scope of such analyses as seemed desirable, and, second, to indicate what part of them has not yet been completed.

Practices aiming at control of geographic price relations are significant because of their effects on the general level of prices and, second, their effects on price differentials obtaining from different geographic regions. Certain geographic pricing practices are closely related to the phenomenon of price leadership. It was, therefore, necessary to study the absolute level of special commodity prices, as compared with the general price level, and their responsiveness to changes in economic conditions, that is, their degree of rigidity or flexibility. Wherever possible, the behavior of prices before the adoption of the trade practices reviewed and during the period of operation of such practices had to be compared. A useful technique of comparison appeared to be the examination of the development of the margin between costs of production and prices obtained in the periods before and after the adoption of the respective geographic pricing practices. As to price leadership, the relation between size of companies and influence on the formation of the price level had to be investigated. It was, therefore, desirable to obtain, wherever feasible, a frequency distribution of companies and plants by size, both absolute and relative to the volume of total industry production. Such a national distribution had to be broken down into similar distributions for the main producing regions. In industries where price filing was adopted under the code, the available price filings had to be consulted in order to test the degree of price leadership exercised by the dominant industry members.

Another significant comparison was the one of price charge for comparable industry products in different parts of the country. In order to see this latter kind of price analysis in its right light, it was necessary to study the volumes of production by geographic regions and the movement of goods shipped between these regions. In all basing point industries, where certain mills serve as a basis for price quotation while others do not, freight is absorbed on certain shipments while "fictitious" freight is charged on others. It seemed desirable to obtain frequency distributions of the sales of basing point and non-basing point mills in order to throw light on the proportion of their business which netted high or low mill realizations. By combining such information with volume of production, cost and other pertinent data, an understanding of the development of industrial profits as between different regions and different companies and of the trends of geographic shifts in the location of industries could be gained.

The completion of a research program as comprehensive as the one outlined above would have been a matter of years. Under the prevailing conditions of severe limitation of time and personnel, the program had to be curtailed substantially. Only the basing point system of the Iron and Steel Industry and the basing point, freight equalization and zoning practices adopted by the lumber and timber products industries could be afforded somewhat more detailed treatment. Other industries, such as the reinforcing materials fabricating and the steel joist industries, the cement industry, the cast iron soil pipe industry, the salt industry, some branches of the paper industry, and many others, the study of which seemed highly desirable, had to be put aside. But even the study of the iron and steel and the lumber and timber products industries had to be reduced to a much smaller scale than originally planned. Especially the statistical part of the work suffered very materially in both industries. A study of the railroad and waterway freight rate structure has yet to be undertaken. This is indispensable to an understanding of the dependence of geographic pricing practices upon the prevailing freight rate structure. Freight rate differentials obtaining between crude, semi-finished and finished products are of interest with respect to the competitive position of integrated and non-integrated producters.

With respect to the steel industry specifically, it is necessary to obtain cost of production data and analyze the comparative costs of large and small, integrated and non-integrated, and differently located producers. It seems to be of special importance to collect accurate data as to the volume of shipments between different producing and consuming points and areas, in order to be able to determine the amount of uneconomic hauling which takes place. Some such data are available in the confidential files of the Federal Trade Commission. Although they are said to cover a small sample only (approximately 10% of total industry shipments) they would be of interest for a study of cross-hauling. It has not been possible to use these data for present report. The effects of integration, product diversification and specialization, of costs attached to starting and stopping operations, and similar structural factors, on the amount of long-distance hauling need to be examined. Price leadership in the steel industry should bestudied on the basis of information contained in the Code Authority price filings. The question of enforcing a limitation of freight absorptions and the effects of the amount ofsuch a limitation are further important subjects for thorough study.

In the lumber industry, similarly, data as to shipments from producing to consuming territories are indispensable to a continuation of this study. Another set of data not yet obtained relates to the capacity of mills in each of the divisions of the lumber and timber products industries. More information is desirable regarding the specific uses of lumber species and products in various markets. Such information would throw light on the extent to which interregional shipments of lumber are necessary. A more thorough study of the basing point and zoning practices established in the maple and oak flooring, walnut and mahogany divisions, as well as of the activities of the trade associations in these and other divisions, is called for. Because of lack of data, thus far no cost and price analysis has been undertaken for the different lumber and timber products. Such cost and price analyses need to be combined with volume of production and profit

statistics, in order to complete the picture of the effects of geographic pricing methods on economic conditions in these industries.

Finally, the legal aspects of the problems dealt with will have to be given careful consideration, In this connection, a thorough-going examination and interpretation of pertinent judicial decisions, such as the linseed, hardwood, maple flooring and cement case, as well as the Sugar Institute case now pending before the Supreme Court, should be undertaken.

APPENDIX II.

THE ANTI-DUMPING PROVISION IN THE CODE FOR THE ICE INDUSTRY.

The outstanding example of an anti-dumping provision sanctioned by NRA is furnished by the code for the ice industry. Article IX of this code states that the practice of producers or vendors in selling ice into other than their basic or normal markets is condemned by the industry as an unfair method of competition in all cases in which such transactions are conducted otherwise than in compliance with the following restrictions:

1. Such ice cannot be sold below the lowest published schedule of prices obtaining in the market or territory in which such ice is offered for sale.....

2. Such ice cannot be sold below the average cost of production and distribution of all ice produced, sold or distributed by the producer or seller, plus the cost of transportation to the point of ultimate sale or delivery.

3. Such ice cannot be sold for lower prices than those being secured by the producer or seller in his normal or basic market. (*)

It is clear that the implementation of this provision depended on the determination of what constituted a producer's basic or normal market territory. The code provided that such determination should be made in each individual case by the code authority with the approval of the Administrator. During the period of operation of the ice code, many market area determinations were handled by the Ice Code Authority independently and accepted by the industry, while forty cases of application of the anti-dumping provision to specific areas were submitted to the Administration. In all of these latter cases, the local committees of arbitration and appeal as instituted by the ice code held public hearings on the matter and made recommendations to the national Code Authority, which, in turn, forwarded these recommendations with its approval to the National Recovery Administration. In May, 1935, when the Supreme Court Decision abrogated the enforcement of codes, eight out of these forty cases were still pending, while thirty-two had been decided by the Administration. The office of the deputy administrator in charge of the ice code laid down certain items of general information upon which the determination of normal market areas was to be made. This information was to include: (**)

(*) See Code of Fair Competition for the Ice Industry, approved October 3, 1933, Article IX (1).

(**) Memorandum from Thomas R. Vaughn, Assistant Counsel to Earle W. Dahlberg, Deputy Administrator, in Deputy Administrator's Records, NRA Files, Ice Industry.

1. Geographical position of the cities in question.
2. Transportation facilities, including cost.
3. Purposes and date for which plants were erected, and capacity.
4. Custom of sales in past - prior to code.
5. Difference in prices as compared in some general territory.
6. Ability of producer to render service.
7. Whether or not there is bona fide competition in the invaded area.

Moreover, it was stated as a general rule that full consideration should be given small enterprises. The second part of this appendix contains a short synopsis of all cases of market area determination for which a final decision was reached. It appears that the great variety of individual circumstances made it very difficult for the Administration to apply consistently the same set of rules to all of them. In some of the cases it is likely that decision was based on compromise between the conflicting desires and views of the parties involved. No statistical information is available which would permit a comparison of prices and volumes of production in the respective localities, before and after the administrative determination of the normal market area. However, the general significance of these market area determinations seems to have been that price wars between producers in adjacent towns and cities were brought to an end and friendly understandings or tacit agreements as to the division of market territories and the level of prices were reached under the persuasive influence of the Local Committees of Arbitration and Appeal and other Code Authority officials.

In a few cases, such as Dallas and Fort Worth, Texas, the determination of the normal market area was followed by an elaborate agreement among producers to regulate all phases of ice production and distribution. For the sake of illustration, it may be of interest to give in brief lines the essentials of the Fort Worth agreement. The volume of ice sales in this city shrank appreciably after 1931, as the following firue figures indicate:

1931 .....190,000 tons
1932 .....160,000 tons
1933 .....152,000 tons

A number of factors seem to have been responsible for this decline, such as the increasing replacement of ice by mechanical refrigeration, the unusually cold winter of 1933, and general depression conditions. The average rate of operation had fallen in 1933 to 31% of capacity for all factories, while some of them operated at as low a percentage as 13.5% (*) In the face of these facts, the market broke completely in 1933 and ice prices reached a low of $1.00 per ton at wholesale as compared with a price level of around $5.00 per ton that had prevailed in

(*) It must be borne in mind that theoretical capacity for ice plants is calculated on a 365 days basis, while an operation of 170 or 180 full days a year is practically considered a good result. The actual rate of operation has never exceeded 50 per cent of theoretical capacity by very much.

more normal times. Industry members estimated that this low price created an approximate loss of $500,000 per year for the Fort Worth ice business. Hearings were held by the Administration on the price situation, but the establishment of emergency minimum prices was denied because of the belief that it would not be possible to enforce minimum prices. Some time later, a scheme of regulation was submitted to Washington for approval, but the Administration again refused to sanction it. Thereupon, the ice interests of Fort Worth decided to carry out their plan on the basis of voluntary agreement. All of the companies located within the market territory of Fort Worth were divided into three groups and the total volume of sales as anticipated for the following year was allocated to these three groups. The first group consisted of plants which were shut down. These were to receive $2.00 per ton liquidated damages for the volume of business which had been allocated to them. The second group consisted of companies which produced a limited amount of ice, for which they were to receive a fixed price of $3.85 per ton and which they were to turn over for marketing to the members of the third group.

The third group assumed the responsibility for the distribution of all ice, both the volume produced by its members and the volume produced by the second group. If a member company of the third group developed a sales outlet for a greater amount of ice than its allocated production, it was required to purchase any excess from all members of the industry in proportion to their alloted quotas. A minimum price of $4.50 at wholesale and 48¢ per cwt. at retail was agreed upon.

A similar plan was adopted and carried into effect by the city of Dallas. In both cases it is reported that the operation of these plans highly satisfied the members of the industry because of their stabilizing effect on prices. (*)

From an economic point of view, what happened in Fort Worth and Dallas, and in a less pronounced degree in other cases of successful determination of market areas, can be characterized as the implementation of price agreements combined with regulation of the volume of production and allotment of production quotas. This seems to have been possible by restricting the production and marketing district which had to be regulated within certain well-defined boundaries. It is beyond the scope of the present report to discuss the problems of minimum prices and the regulation of production. (**) It may suffice to say here a few words regarding the economic characteristics of arrangements such as those effected by Fort Worth and Dallas. If excess capacity in an industry is not merely cyclical but has become permanent because of the displacement of its products by the product of another industry (mechanical refrigeration), the competitive mechanism provides for the gradual writing

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(*) See the records of the Deputy Administrator regarding the Fort Worth and Dallas marketing agreements in NRA consolidated files, Ice Industry.

(**) As to these matters, see reports: "Minimum Price Regulation Under Codes of Fair Competition" and "Production and Capacity Control in the Ice Industry Under the NRA Code" - Trade Practice Studies Section, Division of Review.

off the social balance sheet of the capital investment of such an industry by the process of bankruptcies and reorganizations. This process was modified in the Fort Worth and Dallas agreements by the provision that those companies whom competitive price wars would have forced to the wall first, were to receive liquidated damages for yielding voluntarily. In times of crisis and depression this procedure might be less disturbing than frequent bankruptcies would be. However, the real question is whether a socially desirable middle course can be found between the two extremes of subsidizing (in the case of price wars) the consuming public at the expense of those ice companies which will be needed in the long run to supply the active demand for ice, and subsidizing (through price and production control agreements) the vested interests in the ice industry at the expense of the consuming public.

A short synopsis of the cases of market area determination which were decided upon by the Administration follows below. For each of these cases factors characterizing the local ice market are given in abbreviated form.

BRIEF SYNOPSIS OF CASES OF MARKET AREA DETERMINATION - ICE INDUSTRY.

Case No. 1.

Ackerman, Miss., 1,200 population, one small plant; McCool, Miss., population 350, one small plant; both gradually deteriorating since 1929 - 3½ miles apart. Price stabilized at 50¢ cwt. domestic. McCool dumping into Ackerman. Trouble threatened. Determination was that Ackerman and six small villages within an area of ten miles were outside of the normal market area of McCool. Rule #1, geographical position, was applied.

Case No. 2.

Gloucester, Mass., 24,000 population, three plants, total daily capacity, artificial ice and 45,000 tons natural ice storage. Essex, Mass., 2,000 population, 25,000 tons natural ice storage. Seven miles apart. Essex storage house partially destroyed by fire. Distressed ice being dumped into Gloucester at $2.00 per ton. No sales in Gloucester in former years. Determination: Gloucester was outside of the normal area of Essex. Rules #4 and #5 applied.

Case No. 3.

Godley, Texas. Approximately 800 population, one plant, 17 ton daily capacity. Cleburne, Texas, population 6,000, two plants, 70 tons daily capacity. Eleven miles apart via improved highway. Prices stable, 40¢ cwt. station or platform, 50¢ per cwt. delivered domestic. Godley operator did not deliver or maintain refrigerated storage in Cleburne (in dumping of ice) and did not serve Cleburne until 1933. Determination: Godley was outside of the Cleburne normal market area. Rules 1, 2 and 6 applied.

Case No. 4.

Shelby County, Indiana, includes the town of Shelbyville, population 10,602, which has one plant of 75 tons daily capacity. Rushville, Rush County, Indiana, population 5,733, plant or plants capacity not of record. Towns 22 miles apart. Prices stable, domestic delivered city, 40¢ cwt., county, 45¢ cwt. Mr. C. E. Willis Assistant Deputy Administrator, denied determination recommended March 27th, 1934. "Approval is given only in cases which arise under Art. 14, Section 2. -- Not indicated that ice is being dumped into this area." Case reopened and determination made July 27, 1934, that Shelby County, Indiana, was outside normal market area of Rushville, Indiana. Rules 1 and 6 were applied.

Case No. 5.

Morgan County, Indiana, includes the town of Martinsville, population 4,822, with one plant of 30 tons daily capacity, 2,500 tons storage. Indiana Terminal and Refrigerating Company, Indianapolis, Indiana, essentially a cold storage plant, dumped excess ice into Martinsville, 30 miles distance. Determination: Morgan County is normal market area for Martinsville plant and outside the normal market area for Indiana Terminal and Refrigerating Company ice. Rules 1 and 3 applied.

Case No. 6.

Olney, Ill., population 3,000, one plant unrecorded capacity. Prices $5.50 per ton to peddlers, 60¢ cwt., delivered domestic. Newton, Illinois, population 2,500, one plant, capacity not stated, selling to peddlers at $3.50 per ton for resale in Olney, 19 miles distant at 40¢ per cwt., at station, and 50¢ per cwt., delivered domestic, under written contract, for three years, dated June 15, 1933. Determination: Town of Olney is outside normal market area for ice from Newton. Rules 1, 5 and 7 applicable.

Case No. 7.

Eagle Lake, Wis., included Swift and Company packing plant. Natural ice storage 35,000. Swift and Co., complying with code, refused further sales at cut prices to peddler, who in former years had dumped this ice into Racine, Illinois, 19 miles away, and in competition with peddlers buying from Racine plants at $5.50 per ton. The peddler, to whom Swift & Co., refused further sales first complained to the Federal Trade Commission, which developed these facts and transferred the complaint with information to NRA. Determination was that ice of Swift & Co. storage was primarily for meat packing and must be sold in Racine in compliance with the provisions set forth in Article IX, Section 2 of the code. No discrimination of prices against complainant who may buy ice in Racine. Case was reviewed and determination recommended by Industrial and Consumers Advisory Board and Legal Division. Rule 3 governed.

Case No. 8.

Sesser, Illinois, is a small inland town having had no ice service except by one peddler maintaining refrigerated storage for 15 years, selling ice purchased at $5.00 per ton at plant in Christopher, Ill., 10 miles away. Market invaded in 1933 by another peddler, maintaining refrigerated storage only during summer and selling ice at $4.00 per ton at plant in Johnson City, 30 miles from Sesser. Invader charged with cutting prices and failure to maintain year-round service. Case was reviewed and determination approved by Deputy Administrator, Research, Labor, Industrial and Consumer's Boards. Sesser is outside of normal market area of Johnson City, Ill., Rules 1, 4 and 6.

Case No. 9.

Cambridge, Mass., market and a radius of 20 miles had been served by local storage of natural ice, except imported following mild winters. Gardner is 50 miles from Cambridge, in a colder section where natural ice is more certain. Large storage of ice at Gardner formerly sold in car lots for Boston, Mass., and other markets, but seldom in Cambridge. All natural ice must be harvested and total cost assumed in advance of demand. Great excess caused distressed ice in summer following good harvest during cold winter. Fierce competition and cut prices followed. This effect was felt in Cambridge when peddlers dumped Gardner ice in the market below normal prices. Determination was that Cambridge was outside normal market of Gardner ice. Rules 1 and 7 probably applied.

Case No. 10.

Metropolis, Ill., had one plant, built 1903, 50 ton capacity, exceeding local consumption. Price $5.00 to $6.00 per ton to dealers and peddlers. Paducah, Kentucky, 10 miles away, across toll bridge on river, had two plants - respondent plant built 1933 - capacity considerably greater than local demand. Peddler in Metropolis bought ice in Paducah at $3.00 per ton under questionable written contract and resold in Metropolis in competition with dealer prices of local plant, but not below domestic price of local ice. Determination was that Paducah was outside the normal market area of Metropolis. Rule 6, bona fide contract, applied.

Case No. 11.

Henry and Owen Counties, Kentucky, have for years been served by a peddler operating from Carrolton, Ky., in an adjoining county, buying the ice from Carrolton plant owned by utility company under 10 years contract expiring 1937. Other peddlers have also served these counties with ice bought at meat packing plant in Madison, Ind., across Ohio river. Two other adjoining counties were also indirectly involved somewhat nearer Madison. Determination was that Henry and Owen Counties were not the normal market area for packing company ice in Madison, Indiana. Rule No. 3 or compromise by No. 1 may have been the basis.

Case No. 12.

Greensburg, Indiana, had one plant, 50 ton capacity, excess in peak of demand. Posted price 50¢ cwt., domestic, delivered. Rushville is 20 miles distant and Indianapolis is 50 miles distant from Greensburg. Sold ice to peddlers maintaining refrigerated storage in Greensburg which was resold at 35¢ cwt. to domestic trade. Price of Greensburg ice was 60¢ cwt., Domestic in 1932, prior to entry of competition. Determination: that Greensburg was outside market area for Rushville and Indianapolis ice, but Deputy Administrator stated that it may be withdrawn upon five days notice if prices are unduly raised by the Greensburg Ice Company. Rules 1, 3, 5, and 7 applicable.

Case No. 13.

Bristol, Rhode Island, population 11,000, with one plant 22½ ton capacity and 10,000 ton natural ice storage capacity. Peddler prices, $4.00 per ton, domestic, 50¢ cwt. delivered. Market invaded by peddler formerly buying from local source, but selling ice in 1934, bought at platform in Seekand, Mass., 20 miles away, at $2.00 per ton. Determination: that Bristol was outside normal market for Seekand ice. Rules 4 and 5 applicable.

Case No. 14.

Old Orchard, Maine. Resort, summer population of 15,000 to 20,000. Winter, 1,600 and adequate supply stored annually locally; Biddleford, Maine, industrial city, population 20,000, twelve dealers store 15,000 tons annually, 10,000 consumption, 5,000 ton normal surplus. Prices cut

Case No. 14 (Cont'd)

to $2.00 ton wholesale. Towns 3½ miles apart. Determination: Old Orchard outside Biddleford normal market. Rule No. 5 (Not No. 1) applied.

Case No. 15.

Lula, Miss., small town, one plant, annual load factor 39.1% - 1933, invaded Jonestown, small inland town formerly served by plant in Clarksdale, Miss., having an annual load factor of 13.1% - 1933. Jonestown 12 miles from Clarksdale and 18 miles from Lula. Determination: Lula is outside of Jonestown area. Rule No. 4 applicable.

Case No. 16.

Eminence, Ky., is small town; abandoned plant bought by Frankfort, Ky., producer, who served the market from Frankfort plant, 22 miles away. Meat packing plant in Madison, Indiana, 44 miles distant, had periodically sold ice to peddlers for resale in Eminence. Determination: Eminence is outside normal market for Madison, Ill. ice. Rules 1, 3 and 6 would apply.

Case No. 17.

Rockmart, Ga., small town, one rebuilt plant, 15 tons capacity. Cedartown, Ga., 10 miles distant, larger town, two plants - 35 ton and new 15 ton plant, built 1932 when owners of 35 ton plant dismantled plant in Cedartown and rebuilt it in Rockmart, presumably to extend out from their two plants into wider territory. Determination: that Rockmart was inside of Cedartown area. Rules 7 and 8 specifically applied.

Case No. 18.

Lynn, Mass., is within the Boston section and appeared to have been the potential battleground of a price war. The Lynn area was designated to include several other towns into which certain ice companies might sell and other companies could not sell. This determination is in reverse to the decision of Asst. Deputy Mr. Willis, who had previously ruled that determination would not be made unless Art. 14, par. 2 was being violated. Such was not the case in this instance.

Case No. 19.

This is a case of a member selling distressed ice from his partially destroyed storage house in Essex, Mass. to the fish trade in Gloucester, Mass., which market or channel was adequately served by houses in Gloucester at a price of $4.00 per ton, whereas the Essex ice was bought for $2.00 in Essex and resold to the fish trade channel at $3.50 per ton.

Case No. 20.

This is a case of a dairy company in Wichita Falls, Texas formerly buying ice at a satisfactory price from a plant in Wichita for own use and for resale to its dairy producers' patrons. The price was advanced to $4.00 per ton, and the dairy company reopened its small ice-making

Case No. 20 (Cont'd)

department, producing for its own use and sale at $3.00 per ton to the farmer supplying their milk. Determination: that the dairy Company was a member of the Industry and permitted to supply the dairy farmer channel demand with ice at $3.00 per ton.

Case No. 21.

Torrant County and Ft. Worth, Texas, was experiencing a price war with prices as low as $1.00 per ton wholesale and dumping ice into other adjoining market normally served by local plants. Determination: that a wall around the "fire" would stop the dumping and restore order. Rule No. 8 was probably in mind.

Case No. 22.

Dallas County, Texas, and City of Dallas, located 32 miles from Ft. Worth, was likewise going through a destructive price war, resulting from excess capacity. Annual load-factor around 35% and dumping ice into other markets up to distance of 100 miles. Determination was made on same day as case No. 21 and for same reason as in the case of Ft. Worth.

Case No. 23.

San Antonio, Texas, (population 270,000) was in a similar situation as prevailed in Dallas and Ft. Worth and in a like manner the Code Authority requested that the County of Bexar, about 35 miles distant, was fixed as the normal market area.

Case No. 24.

Chambersburg, Pa., with over-production capacity, began cutting prices and sold ice at $3.00 per ton to peddlers who dumped the ice into the Hagerstown, Maryland, market, 22 miles away; this market had a price of $6.00 per ton to peddlers as the lowest published price. Peddlers of Chambersburg ice were only fair weather dealers and discontinued service during the winter of 1933 and reopened in the spring of 1934. No ice from Chambersburg had been sold in Hagerstown previous to 1933. Determination: that the limits of the City of Chambersburg was the normal market area for ice manufactured in Chambersburg. A wall was thrown around the "fire" in answer to the protest of an injured producer on the outside of that area.

Research and Planning Division did not approve the limits of the seven mile area for Chambersburg, and that "peddler selling such ice in Hagerstown appeared to be fair."

The Consumers' Advisory Board "approved the determination...dumping of Chambersburg ice into various towns in Maryland, thereby bringing about destructive price cutting..."

Case No. 25.

Thibadaux, La., is situated in a section embracing seven or more ice plants, all operating on around 30% annual load factor. A new plant was built in Thibadaux which started contracting with peddlers and various operators of cash and carry stations throughout the whole section, extending a distance of 50 miles from Thibadaux, thereby creating unrest in all these markets. An area was determined to include Thibadaux and the surrounding country, extending a distance of approximately eight miles in each direction, which would give respondent's plant and the other plants in Thibadaux an estimated sales outlet to create an annual load factor equal to the average of the other plants in adjoining area.

Case No. 26.

Eaton, Ohio, a small town, and the surrounding county area had been served by the Eaton plant of 15 tons capacity and 500 tons storage capacity, for many years. Ice had been purchased in Dayton, Ohio, and resold by peddlers in this town and county for several years, but prices remained fairly steady at 60¢ per cwt., domestic, delivered (some trouble came on in minor isolated cases.) The determination recommended by the Committee and Code Authority was in the form of a compromise cutting out a few outside village sections in the county and designating the remaining large per cent of the county and the town of Eaton as the normal market area for the plant at Eaton.

Case No. 27.

Xena, Ohio, plant owners were denied petition for their normal market area to include certain interior towns into which ice from competing plants in other towns had and was being sold, -- particularly claiming one town where they had bought the charred remains of a plant destroyed by fire for the purpose of inheriting its good will and the rights to distribution. Order of denial by the Deputy Administrator was to prevent complications even more serious and destroy competition.

Case No. 28.

Kennedy, Texas, plant owners wanted their own market area to shut out dumped ice from San Antonio. Determination unnecessary because an area had been fixed including San Antonio.

Case No. 29.

Bedford, Ind. A petition for determination of normal market area was denied on the grounds that prices were fair and monopoly was not desired.

Case No. 30.

Columbia, Tenn. owners of small plant petitioned for a normal market area, to prevent a dealer-peddler from selling ice, bought under an old contract, from a plant 30 miles away at Hohenwold, Tenn., for resale in Columbia. The petition was denied because the contract was valid and competition was necessary.

Case No. 31.

Taladega, Alabama, plant owner's petition was denied apparently on a technical basis, -- that the owner did not file or post peddler price or seek peddler business. On these grounds, Peel City, Alabama, ice may be sold into the town of Taladega.

Case No 32.

Manchester, Conn., plant owners may sell their ice as has been done in years past into Hartford, Conn. market, and therefore a petition to establish Hartford normal market area to exclude Manchester was denied.

The records of the eight petitions for determination of normal market areas were not included in this study.

TABLE 1

PRODUCTION OF SOFTWOODS BY PRINCIPAL PRODUCING REGIONS

1929 and 1932

Thousands of Board Feet

	1929	1932
West Coast	9,964,000	3,131,000
Southern Pine	11,333,000	3,069,000
Western Pine	5,148,000	1,796,000
Cypress	381,000	118,000
California Redwood	590,000	174,000
All Other	1,510,000	458,000
Total	28,926,000	8,746,000

Source: National Lumber Manufacturers' Association, Statistical Department.

TABLE 2

PRODUCTION OF HARDWOODS BY PRINCIPAL PRODUCING REGIONS

1929 and 1932

Thousands of Board Feet

	1929	1932
Appalachian and Southern	5,090,000	1,022,000
Northern Hardwoods	938,000	145,000
North Central	353,000	64,000
Northeastern Hardwoods	521,000	130,000
All other	171,000	44,000
Total	7,073,000	1,405,000

Source: National Lumber Manufacturers' Association, Statistical Department.

TABLE 3

PERCENTAGE DISTRIBUTION OF LUMBER PRODUCTION, BY REGIONS

1849-1934

Year	Total United States	North-eastern States	Lake States	Southern States	Western States	Central States	Other States
1849	100.0	*58.8	6.3	13.6	5.9	18.6	.8
1869	100.0	*37.8	24.4	9.4	4.9	20.0	3.5
1879	100.0	25.8	*34.7	13.8	4.5	18.4	2.8
1889	100.0	19.8	*34.6	20.3	9.6	13.1	2.6
1899	100.0	16.3	24.9	*31.7	9.9	16.1	1.1
1909	100.0	11.7	12.3	*44.9	18.4	12.3	.4
1919	100.0	7.5	7.8	46.6	29.2	8.7	.2
1929	100.0	3.3	4.8	41.9	*43.4	6.4	.2
1930	100.0	3.8	5.1	39.0	*46.6	5.2	.3
1931	100.0	3.6	4.3	36.2	*50.7	5.0	.2
1932	100.0	3.8	2.8	38.8	*50.3	4.1	.2
1933	100.0	3.0	2.8	41.3	*48.9	3.9	.2
#1934	100.0	3.9	3.9	36.8	*51.7	3.5	.2

Source: Census of Manufactures.

* Region leading in production for the year indicated.

\# Estimate based on sample of 630 mills.

TABLE 4

COMPARISON OF YEARLY

LUMBER PRODUCTION, 1919-1933, AND

ESTIMATED CAPACITY OF THE INDUSTRY

IN 1929 IN MM BOARD FEET.

CAPACITY:	U. S. Timber Conservation Board Estimate for 1929	82,000
	Lumber Code Authority Estimate for 1929	66,000

PRODUCTION

Year	
1909	44,510
1910	44,500
1911	43,000
1912	45,000
1913	44,000
1914	40,500
1915	38,000
1916	40,000
1917	31,000
1918	32,000
1919	34,552
1920	35,000
1921	29,000
1922	35,250
1923	41,000
1924	39,500
1925	41,000
1926	39,750
1927	37,250
1928	36,750
1929	36,886
1930	26,100
1931	16,523
1932	10,151
1933	13,961
1934	15,263

Source: Data for production, 1920 to 1928, inclusive, as computed by the Federal Reserve Board; all other years, estimates of the United States Forest Service, except 1934, the estimate for which was made by the National Lumber Manufacturers' Association, and 1909, 1919 and 1929, which show Bureau of the Census figures.

TABLE 5

PER CAPITA CONSUMPTION OF LUMBER AND TIMBER PRODUCTS

1809 - 1934
In Board Feet

Year	Per Capita Consumption	Year	Per Capita Consumption
1809	55	1915	380
1819	55	1916	395
1829	65	1917	350
1839	95	1918	310
1849	235	1919	325
1859	260		
1869	340	1920	325
1879	365	1921	260
1889	435	1922	315
1899	460	1923	355
		1924	345
1904	505	1925	345
1905	505	1926	335
1906	525	1927	300
1907	510	1928	305
1908	460	1929	275
1909	475		
		1930	210
1910	465	1931	130
1911	435	1932	94
1912	455	1933	121
1913	430	1934	122
1914	400		

Source: 1920 to 1928 computed by the Federal Reserve Board; all other years computed by the Forest Service, Department of Agriculture.

TABLE 6

NET INCOME OF SAWMILL AND PLANING MILL CORPORATIONS*

In Thousands of Dollars

Year	Total Number Reporting	Reporting Net Income		Reporting No Net Income		Net Profit or Deficit of all Reporting Companies
		Number Reporting	Net Income	Number Reporting	Deficit	
1919	2,953	2,386	$150,948	567	$14,232	$136,716
1920	3,582	2,542	195,127	1,040	15,334	179,793
1921	3,366	1,475	38,723	1,891	76,399	37,636 d
1922	3,455	2,339	138,218	1,116	28,675	109,543
1923	3,711	2,615	209,558	1,096	18,529	191,029
1924	3,343	2,034	96,019	1,309	31,845	64,174
#1925	-	-	-	-	-	-
1926	3,830	2,104	96,920	1,726	46,267	50,653
1927	3,627	1,769	62,233	1,683	56,540	5,693
1928	3,718	1,934	70,798	1,597	45,817	24,981
1929	3,766	1,876	70,940	1,646	38,580	32,360
1930	3,551	940	16,572	2,425	89,326	72,754 d
1931	3,168	507	2,981	2,493	121,867	118,886 d
1932	2,946	186	722	2,633	124,803	124,081 d
1933	3,044	582	6,058	2,252	52,064	46,006 d

Source: Bureau of Internal Revenue, Statistics of Income.

d: Deficit

*: Income and deficit figures represent total compiled receipts minus (1) dividends from domestic corporations, (2) interest on tax-exempt obligations, and (3) total statutory deductions.

#: Data not available.

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TABLE 7

SALES OF SOUTHERN YELLOW PINE FROM VIRGINIA AND NORTH CAROLINA TO INDIANA, MICHIGAN AND OHIO AS REPORTED TO SOUTHERN PINE DIVISION DURING JANUARY, FEBRUARY AND MARCH, 1934.
(Feet Listed in Thousands, M.M.)

Indices of Southern Pine Production and Shipments
(For Purposes of Comparison) (*)

	Production		Shipments
	1917-23	1923-31	1922-1931
January	94	99	97
February	93	95	94
March	105	106	105
April	102	103	106
May	109	105	107
June	100	99	95
July	103	99	100
August	105	103	106
September	101	100	103
October	100	104	108
November	96	98	97
December	88	91	85

SALES TO ALL STATES

Originating States	January	February	March	Total
Virginia	9,376	10,781	19,116	39,273
N. Carolina	15,310	22,571	29,143	66,024
TOTALS	24,686	33,352	47,259	105,297

(*) Index of Production, Souther Yellow Pine, taken from "Seasonal Variations in Industry and Trade", by Simon Kuznets, a publication of the National Bureau of Economic Research, New York, 1933 (pp. 404, 405).

TABLE 7 (Cont'd.)

SALES TO INDIANA

Originating States	January Feet	%	February Feet	%	March Feet	%
Virginia	56	0.60	60	0.56	75	0.39
N. Carolina	None	None	None	None	222	0.79
TOTALS	56	0.23	60	0.18	297	0.63

SALES TO MICHIGAN

Originating States	January Feet	%	February Feet	%	March Feet	%
Virginia	2005	21.33	1464	13.57	4421	23.13
N. Carolina	2442	15.95	1003	4.44	4706	16.72
TOTALS	4447	18.01	2467	7.40	9127	19.31

SALES TO OHIO

Originating States	January Feet	%	February Feet	%	March Feet	%
Virginia	1046	11.16	1878	17.42	2599	13.60
N. Carolina	403	2.63	934	4.14	16	0.06
TOTALS	1449	5.87	2812	8.43	2615	5.53

TOTAL SALES TO INDIANA-MICHIGAN-OHIO

Originating States	January Feet	%	February Feet	%	March Feet	%	Aggregate Feet	%
Virginia	3107	33.14	3402	31.55	7095	37.12	13604	34.64
N. Carolina	2845	18.58	1937	8.58	4944	17.57	9757	14.73
TOTALS	5952	24.11	5339	16.01	12039	25.47	22330	22.16

TABLE 7 (cont'd.)

TOTAL PURCHASES OF SOUTHERN YELLOW PINE
BY INDIANA, MICHIGAN AND OHIO
AS REPORTED TO SOUTHERN PINE DIVISION
DURING JANUARY, FEBRUARY AND MARCH 1934
(Feet Listed in Thousands B.M.)

Purchases from all
Southern Pine States

	January	February	March	Total
Indiana	5,193	8,615	20,947	34,755
Michigan	11,804	10,522	24,945	47,271
Ohio	8,051	16,339	24,304	48,694
TOTALS	25,048	35,476	70,196	130,720

FROM VIRGINIA

	January		February		March		Total	
	Feet	%	Feet	%	Feet	%	Feet	%
Indiana	56	1.08	60	0.70	76	0.36	192	0.55
Michigan	2,005	16.98	1,464	13.91	4,422	17.73	7,891	16.69
Ohio	1,046	12.99	1,878	11.49	2,600	10.70	5,524	11.34
TOTALS	3,107	12.40	3,402	9.59	7,098	10.11	13,607	10.41

FROM NORTH CAROLINA

	January		February		March		Total	
	Feet	%	Feet	%	Feet	%	Feet	%
Indiana	None	None	None	None	222	1.06	222	0.64
Michigan	2,442	20.69	1,003	9.53	4,707	18.87	8,152	17.25
Ohio	403	5.01	964	5.90	16	0.06	1,383	2.84
TOTALS	2,845	11.36	1,967	5.54	4,945	7.05	9,757	7.46

TABLE 7 (Cont'd.)

TOTAL FROM VIRGINIA AND NORTH CAROLINA

	January		February		March		Total	
	Feet	%	Feet	%	Feet	%	Feet	%
Indiana	56	1.08	60	0.70	298	1.42	414	1.19
Michigan	4,447	37.67	2,467	23.44	9,129	36.80	16,043	33.94
Ohio	1,449	18.00	2,842	17.39	2,616	10.76	6,907	14.18
TOTALS	5,952	23.76	5,369	15.13	12,043	17.16	23,364	17.87

TABLE 7 (Cont'd.)

CLASS OF STOCK OF SOUTHERN YELLOW PINE PURCHASED BY INDIANA, MICHIGAN AND OHIO FROM VIRGINIA AND NORTH CAROLINA.
(EXACT CARLOAD ESTIMATES: TIMBERS 20,000 FT.; OTHER STOCK 25,000 FT.)
AS REPORTED TO SOUTHERN PINE DIVISION
(Feet Listed in Actual Figures)

DURING FEBRUARY, 1934

		VIRGINIA	N. CAROLINA	TOTALS
FLOORING:	Feet	11,000	None	11,000
	Cars	1/2	None	1/2
CEILING & PARTITION:	Feet	3,000	None	3,000
	Cars	1/8	None	1/8
SIDING:	Feet	11,500	None	11,500
	Cars	1/2	None	1/2
FINISH:	Feet	11,400	None	11,400
	Cars	1/2	None	1/2
BOARDS & STRIPS:	Feet	822,600	1,362,100	2,184,700
	Cars	33	54½	87½
DIMENSION:	Feet	2,155,200	571,200	2,726,400
	Cars	86-1/5	22-3/4	109
TIMBERS:	Feet	387,500	8,000	395,500
	Cars	19-1/3	1/2	19-5/6
ROOFERS:	Feet	None	25,000	25,000
	Cars	None	1	1
TOTALS	Feet	3,402,200	1,966,300	3,844,500
	Cars	140-1/6	78-3/4	219

TABLE 7 (cont'd.)

DURING MARCH, 1934

		VIRGINIA	N. CAROLINA	TOTALS
ROOFERS:	Feet	None	873,000	873,000
	Cars	None	35	35
SIDING:	Feet	20,000	None	20,000
	Cars	1	None	1
FINISH:	Feet	16,000	None	16,000
	Cars	2/3	None	2/3
BOARDS & STRIPS:	Feet	4,365,600	3,886,300	8,251,900
	Cars	174-2/3	155-1/2	330-1/6
DIMENSION:	Feet	2,031,800	42,900	2,074,700
	Cars	81-1/4	1-3/4	83
TIMBERS:	Feet	381,000	128,400	509,400
	Cars	19	6-1/2	25-1/2
CAR MATERIAL:	Feet	7,500	None	7,500
	Cars	1/3	None	1/3
SHIP DECKING:	Feet	275,000	15,000	290,000
	Cars	11	2/3	11-2/3
TOTALS:	Feet	7,096,900	4,945,600	12,042,500
	Cars	287-1/2	198	485-1/2

Source: Letter from Southern Pine Association to J. W. McClure, Chief, Departments of Costs and Prices, Lumber Code Authority, May 26, 1934. (In N.R.A. files, Lumber and Timber Products Industries, "Prices Basing Points - Southern Pine Division" Folder.) Only those mills reporting to the Southern Pine Division are included.

TABLE 8

PRODUCTION AND SHIPMENTS
BY MEMBERS OF THE
MAPLE, BEECH AND BIRCH FLOORING DIVISION
OF THE
LUMBER AND TIMBER PRODUCTS INDUSTRIES CODE
1934
THOUSANDS OF BOARD FEET

State	Number of Mills	PRODUCTION M. ft.	PRODUCTION % of Total	SHIPMENT M. ft.	SHIPMENT % of Total
Michigan	14	30,031	52.2	27,747	47.1
Wisconsin	10	15,009	26.1	17,242	29.2
Illinois	1	1,224	2.1	1,012	1.7
Ohio	5	1,988	3.4	2,283	3.9
New York	3	2,857	5.0	3,494	5.9
Pennsylvania	2	649	1.1	637	1.1
Vermont	3	1,022	1.8	1,167	2.0
New Hampshire	1	33	0.1	42	0.1
West Virginia	7	2,879	5.0	3,163	5.3
Virginia	1	285	0.5	310	0.5
Tennessee	6	1,238	2.1	1,227	2.1
Georgia	1	71	0.1	179	0.3
Arkansas	3	187	0.3	277	0.5
Louisiana	1	96	0.2	173	0.3
TOTALS	58	57,569	100.0	58,953	100.0

Source: Maple Flooring Manufacturers Association, code administrative agency for the division. Includes all maple flooring mills in the United States.

TABLE 9

COMPARISON OF 1929-1928 SHIPMENTS OF MAPLE BEECH AND BIRCH FLOORING INTO EACH STATE IN THE UNITED STATES, ARRANGED IN GEOGRAPHICAL GROUPS.

	1929			1928		
SHIPPED TO	RANK	SHIPMENTS	PER CENT	RANK	SHIPMENTS	PER CENT
Group 1						
Illinois	1	15791M	19.1%	1	17771M	19.7%
Wisconsin	2	9847	11.9	2	10555	11.7
Michigan	3	6181	7.5	3	6621	7.4
Minnesota	5	4981	6.	6	5068	5.6
Ohio	9	3314	4.	7	4585	5.1
Indiana	12	1489	1.8	10	2339	2.6
Missouri	13	1446	1.7	12	1835	2.
Iowa	15	1127	1.4	17	1087	1.2
North Central States (8)		44176	53.4		49861	55.3
Group 2						
New York	4	6000	7.3	4	6173	6.9
Massachusetts	7	4506	5.5	8	3629	4.
Pennsylvania	8	3505	4.2	9	3236	3.6
New Jersey	10	2183	2.6	11	1945	2.2
Connecticut	20	797	1.	24	729	.8
Maine	27	490	.6	22	826	.9
New Hampshire	34	410	.5	37	299	.3
Rhode Island	36	262	.3	39	208	.2
Maryland	40	143	.2	29	512	.6
Dist. of Col.	46	71	.1	33	461	.5
Vermont	47	62	.1	42	167	.2
Delaware	48	23		49	2	
North Eastern States (12)		18452	22.4		18187	20.2

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TABLE 9

SHIPPED TO	1929 RANK	1929 SHIPMENTS	1929 PER CENT	1928 RANK	1928 SHIPMENTS	1928 PER CENT
Group 3						
California	6	4709	5.7	5	5905	6.6
Washington	11	1601	1.9	13	1580	1.8
North Dakota	14	1349	1.6	14	1340	1.5
Utah	16	1086	1.3	18	895	1.
Kansas	22	697	.8	20	855	.9
South Dakota	25	672	.8	23	737	.8
Montana	26	560	.7	21	853	.9
Oregon	30	458	.6	28	530	.6
Kdaho	31	425	.5	32	490	.5
Colorado	32	417	.5	36	428	.5
Arizona	33	414	.5	35	441	.5
Nebraska	35	399	.5	25	701	.8
Wyoming	41	137	.2	40	194	.2
New Mexico	44	88	.1	47	68	.1
Nevada	45	81	.1	48	23	
Western States (15)		13093	15.8		15040	16.7
Group 4						
Georgia	17	1049	1.3	19	880	1.
Texas	18	962	1.2	30	507	.6
Alabama	19	801	1.	16	1151	1.3
Kentucky	21	750	.9	27	599	.7
Tennessee	23	677	.8	34	454	.5
North Carolina	24	675	.8	15	1244	1.4
South Carolina	28	486	.6	26	615	.7
Virginia	29	469	.6	38	251	.3
Arkansas	37	255	.3	43	136	.2
Oklahoma	38	255	.3	31	491	.6
Mississippi	39	234	.3	46	68	.1
Louisiana	42	129	.2	41	180	.2
West Virginia	43	90	.1	44	95	.1
Florida	49	19		45	78	.1
Southern States (14)		6851	8.4		6749	7.8

Source: Maple Flooring Manufacturers Association, Chicago, Ill. Based on reports received from 18 identical M.F.M.A. members; data released July 10, 1930.

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TABLE 10

DISTRIBUTION OF OAK FLOORING BY STATES

SELECTED PERIODS

1932 to 1935

- - - - - - - - -

PER CENT STATE TO TOTAL	STATE	1932 M. FT.	1932 PER CENT	1933 M. FT.	1933 PER CENT	1934 M. FT.	1934 PER CENT	1935 M. FT.	1935 PER CENT
2.2	Alabama	38	.1	128	.2	308	.5	92	.2
.3	Arizona	181	.3	305	.4	279	.4	340	.6
1.5	Arkansas	141	.2	356	.4	745	1.1	648	1.2
4.6	California	3,965	7.0	8,650	10.3	3,733	5.5	6,830	12.2
.8	Colorado	545	1.0	1,981	2.4	1,333	2.0	1,333	2.4
1.3	Connecticut	2,618	4.6	2,833	3.4	1,616	2.4	1,214	2.2
.2	Delaware	93	.2	236	.3	56	.1	79	.1
.4	Dist. of Col.	1,528	2.7	902	1.1	617	.9	791	1.4
1.2	Florida	117	.2	327	.4	546	.8	223	.4
2.4	Georgia	158	.3	675	.8	689	1.0	173	.3
.4	Idaho	0	0	210	.2	228	.3	335	.6
6.2	Illinois	1,695	3.0	3,968	4.7	3,881	5.7	2,015	3.6
2.6	Indiana	497	.9	980	1.2	1,011	1.5	1,186	2.1
2.0	Iowa	1,224	2.2	2,751	3.3	2,525	3.7	2,665	4.7
1.5	Kansas	623	1.1	1,585	1.9	1,942	2.9	1,397	2.5
2.1	Kentucky	369	.7	296	.4	766	1.1	357	.6
1.7	Louisiana	244	.4	627	.7	971	1.4	695	1.2
.7	Maine	241	14	630	.7	192	.3	136	.2
1.3	Maryland	1,602	2.8	1,198	1.4	1,240	1.8	710	1.3
3.5	Massachusetts	6,090	10.8	8,541	10.1	5,573	8.1	3,401	6.1
3.9	Michigan	1,149	2.0	2,500	3.0	2,185	3.2	2,173	3.9
2.1	Minnesota	588	1.0	1,757	2.1	1,632	2.4	1,780	3.2
1.6	Mississippi	146	.3	291	.3	296	.4	257	.5
3.0	Missouri	2,587	4.6	3,191	3.8	3,516	5.2	1,971	3.5
.4	Montana	0	0	228	.3	261	.4	342	.6
1.1	Nebraska	712	1.3	1,566	1.9	1,404	2.1	1,553	2.8
.1	Nevada	30	.1	0	0	0	0	0	0

TABLE 10

PER CENT STATE TO TOTAL	STATE	1932 M. FT.	1932 PER CENT	1933 M. FT.	1933 PER CENT	1934 M. FT.	1934 PER CENT	1935 M. FT.	1935 PER CENT
.4	New Hampshire	128	.2	214	.3	180	.3	68	.1
3.3	New Jersey	3,665	6.5	2,072	2.5	1,967	2.9	866	1.5
.3	New Mexico	296	.5	611	.7	677	1.0	693	1.2
10.3	New York	12,806	22.6	15,332	18.1	8,789	12.8	4,553	8.1
2.6	No. Carolina	191	.3	108	.1	479	.7	188	.3
.6	No. Dakota	23	.0	137	.2	0	.0	139	.2
5.4	Ohio	2,555	4.5	3,611	4.3	2,854	4.2	2,759	4.9
1.9	Oklahoma	509	.9	504	.6	1,198	1.8	737	1.3
.8	Oregon	177	.3	717	.9	360	.5	613	1.1
7.9	Pennsylvania	3,904	6.9	2,882	3.4	3,062	4.5	2,057	3.7
.6	Rhode Island	390	.7	754	.9	665	1.0	508	.9
1.4	S. Carolina	213	.4	145	.2	265	.4	161	.3
.6	So. Dakota	277	.5	494	.6	382	.6	489	.9
2.1	Tennessee	596	1.1	1,363	1.6	1,867	2.7	479	.8
4.7	Texas	1,612	2.8	4,382	5.2	4,188	6.2	5,950	10.6
.4	Utah	36	.1	296	.4	139	.2	291	.5
.3	Vermont	100	.2	101	.1	53	.1	34	.1
2.0	Virginia	696	1.2	654	.8	1,475	2.2	863	1.5
1.3	Washington	366	.6	1,550	1.8	819	1.2	1,028	1.8
1.4	W. Virginia	380	.7	605	.7	566	.8	439	.8
2.4	Wisconsin	395	.7	598	.7	345	.5	466	.8
.2	Wyoming	73	.1	178	.2	103	.2	92	.2
100.0	Totals	56,569	100.0%	84,020	100.0	68,011	100.0	56,169	100.0
	Canada	25		85		69		16	
	Other Exports	345		5,581		5,355		4,437	
	Unknown	7,933		16,201		15,098		—	
	Grand Totals	76,186		132,358		88,533		60,622	
	% of Totals	100.0		100.0				100.0	

×First nine months only available ++ Period From January 1 to June 24 only available.

SOURCE: National Oak Flooring Manufacturers Association, Memphis, Tenn. Based on orders booked by manufacturers which are members of the Association. Inter-manufacturer sales where final destination is not shown are not included, nor are cancellations deducted.

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TABLE 11

NUMBER AND CAPACITY OF MILLS AND PRODUCTION UNITS BY STATES
MEMBER AND NON-MEMBER MILLS *
AS OF NOVEMBER 1, 1935

MEMBER MILLS

State	Number of Mills	Number of Units	% of total Member Units	% of total Industry Units	Hourly Prod. Cap. In Board Ft.	% of total Member Capacity	% of total Industry Capacity
Alabama	1	1	.699	.468	2187	.82	.58
Arkansas	8	31	21.680	14.522	67390	24.38	17.93
California	1	3	2.098	1.406	1680	.63	.44
Georgia	1	1	.699	.468	1873	.70	.50
Illinois	1	3	2.098	1.406	5376	2.02	1.42
Kentucky	1	3	2.098	1.406	2973	1.12	.79
Louisiana	3	11	7.692	5.152	26176	9.84	6.92
Maryland	2	2	1.398	.936	3837	1.44	1.02
Mississippi	3	5	3.497	2.344	7716	2.90	2.04
Missouri	3	3	2.097	1.404	4864	1.83	1.29
North Carolina	1	1	.699	.468	1459	.56	.39
Ohio	5	13	9.090	6.088	20616	7.74	5.48
Pennsylvania	1	3	2.098	1.406	6072	2.28	1.61
South Caroline	1	1	.699	.468	1024	.38	.27
Tennessee	15	43	30.069	20.144	81479	30.61	21.60
Texas	2	4	2.798	1.876	6868	2.58	1.82
Virginia	5	6	4.195	2.810	10252	3.84	2.71
West Virginia	3	7	4.896	3.282	10806	4.06	2.86
Wisconsin	1	1	.699	.468	1420	.53	.37
Location Unknown	1	1	.699	.468	2162	.81	.57
TOTALS	59	143	100.000%	66.98%	266,259	100.00%	70.45%

NON-MEMBER MILLS

State	Number of Mills	Number of Units	% of total Non-Member Units	% of total Industry Units	Hourly Production Capacity, In Board Ft.	% of total Non-Member Capacity	% of total Industry Capacity
Alabama	2	2	2.836	.936	4028	3.61	1.01
Arkansas	1	1	1.418	.468	1871	1.68	.50
Florida	1	1	1.418	.468	1225	1.10	.32
Illinois	1	3	4.257	1.406	4986	4.47	1.32
Kentucky	5	7	9.930	3.280	7940	7.11	2.10
Louisiana	2	4	5.676	1.876	7894	7.70	1.98
Missouri	2	4	5.676	1.874	7470	6.70	1.98
North Carolina	5	5	7.090	2.340	4900	4.39	1.31
Ohio	3	3	4.254	1.404	1630	1.46	.43
South Carolina	1	1	1.418	.468	1947	1.74	.51
Tennessee	8	20	28.374	9.370	36243	32.47	9.58
Texas	1	1	1.418	.468	1919	1.72	.51
Virginia	2	2	2.836	.936	2380	2.13	.63
Wisconsin	4	8	11.346	3.746	15873	14.22	4.21
West Virginia	7	7½	10.636	3.511	10599	9.50	2.80
Location Unknown	1	1	1.418	.468	1122	1.00	.30
TOTALS	46	70½	100.000%	33.02%	111,617	100.00%	29.55%

RECAPITULATION:

TOTALS, Member Mills	59	143		66.98%	266,259	70.45%
TOTALS, Non-Member Mills	46	70½		33.02%	111,617	29.55%
TOTALS, ALL MILLS	105	213½		100.00%	377,876	100.00%

DISTRIBUTION OF MILLS BY NUMBER OF UNITS# OPERATED

Number of Units Operated in Mill	Number of Mills: Members	Non-Members	Total
1	27	33	60
1½	0	1	1
2	12	5	17
3	8	3	11
4	3	3	6
5	4	1	5
6	2	0	2
7	1	0	1
8	1	0	1
9	1	0	1
Total No. of Mills	59	46	105
Number of Companies	49	46	95

* Classified by membership or non-membership in the National Oak Flooring Manufacturers Association.

\# Unit = flooring machine.

Source: National Oak Flooring Manufacturers Association, Memphis, Tenn. Data not hitherto published. Hourly production capacity is on basis of total 1934 production and operating hours reported by mills. In the case of 6 one-unit and 1 two-unit member mills and 6 one-unit and 3 two-unit non-member mills the hourly production capacity is calculated on the basis of the industry average unit hourly production during 1934, there being no individual record for these mills.

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APPENDIX III

TABLES

TABLE 12

PRODUCTIVE CAPACITY FOR PIG IRON
BY COMPANIES AND BASIN POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U. S. Capacity	BASING POINT AREAS Chicago	Neville Island Pa.	Youngstown, O.	Buffalo N.Y.	Birmingham, Ala.	Bethlehem Pa.	Birdsboro Pa.	Sparrows Point Md.	Cleveland Ohio	Jackson Ohio	Steubenville Pa.	Provo Utah	Steelton Pa.	Everett Mass.	Swedeland Pa.	Granite City Ill.	Hamilton Ohio	Toledo Ohio	Detroit Mich.	Erie Pa.	Duluth Minn.	Standish N. Y.	Rank
1	United States Steel Corp.	21,456,400	40.61	7,037,900	6,075,400	2,103,500		1,604,000				1,687,700		448,400	172,000									327,500		1
2	Bethlehem Steel Corp	6,375,600	12.00		1,332,000		1,490,400		1,231,200		1,661,200					656,800										2
3	Republic Steel Corp.	3,830,000	7.21		340,000	1,780,000	450,000	320,000				1,040,000														3
4	Youngstown Sheet & Tube Co.	3,000,000	5.65	1,164,000		1,836,000																				4
5	Jones & Laughlin Steel Corp.	3,000,000	5.65		3,000,000																					5
6	National Steel Corp.	1,666,700	3.14		631,800		674,700															360,200				6
7	Interlake Iron Corp.	1,235,000	2.29	421,200																	13,000		167,400	113,400		7
8	Inland Steel Co.	1,003,000	1.89	1,003,000																						8
9	Wheeling Steel Corp.	958,200	1.81		749,000								210,200													9
10	International Harvester Co.	642,600	1.21	642,600																						10
11	Alice-Sheffield Steel & Iron Co.	584,000	1.10					584,000																		11
12	Colorado Fuel & Iron Co.	563,000	1.06												563,000											12
13	Davies Coke & Iron Co.	557,000	1.05		243,000	164,000								150,000												13
14	Ford Motor Co.	550,000	1.04																			550,000				14
15	American Rolling Mill Co.	514,500	.97										514,500													15
16	Pittsburgh Steel Co.	480,000	.91		480,000																					16
17	Woodward Iron Co.	455,000	.86					455,000																		17
18	Crucible Steel Co. of America	460,000	.87		460,000																					18
19	Otis Steel Co.	430,000	.81									430,000														19
20	Shenango Furnace Co.	410,000	.77											410,000												20
21	Alan Wood Steel Co.	406,080	.77															406,080								21
22	St. Louis Gas & Coke Corp.	400,000	.75																400,000							22
23	Sidcaire Spencer Steel Co.	324,000	.61				324,000																			23
24	Witherbee Sherman Corp.	288,000	.54														288,000									24
25	Virginia Iron, Coal & Coke Co.	200,000	.38		200,000															182,500						25
26	Hamilton Coke & Iron Co.	182,500	.4																							26
27	Gulf States Steel Co.	180,000	.34					180,000																		27
28	Mystic Iron Works	163,000	.31														163,000									28
29	Tennessee Iron Corp.	162,000	.31				162,000																			29
30	Sharon Steel Hoop Co.	155,000	.29			155,000																				30
31	The Struthers Iron & Steel Co.	141,000	.29			141,000																				31
32	The Keeting Iron & Steel Co.	150,000	.28										150,000													32
33	The Troy Furnace Co.	150,000	.28														150,000									33
34	S. O. Brooks Iron Co.	132,000	.25							132,000																34
35	Reading Iron Co.	130,000	.25															130,000								35
36	Central Iron and Steel Co.	126,000	.24					126,000											125,000							36
37	Mississippi Valley Iron Co.	125,000	.24															120,000								37
38	Delaware River Steel Co.	120,000	.23															108,000								38
39	The New Jersey Zinc Co.	108,000	.20																					100,000		39
40	Chateaugay Ore & Iron Co.	100,000	.19																							40
41	Globe Iron Co.	90,000	.17										90,000													41
42	Pulaski Iron Co.	90,000	.17		90,000																					42
43	Adrian Furnace Co.	85,000	.16		85,000																					43
44	Lewis Furnace Co.	72,000	.14		36,000					36,000																44
45	Colonial Iron Co.	72,000	.14		72,000																					45
46	Southern Ferro-Alloys Co.	72,000	.14					72,000																		46
47	Punxsutawney Furnace Co.	70,000	.14		70,000																					47
48	Lukens Steel Co.	55,000	.10		55,000																					48
49	Jackson Iron and Steel Co.	45,000	.09										45,000													49
50	Tennessee Products Corp.	41,500	.08					43,500																		50
51	Vanadium Corp. of America	40,000	.08				40,000																			51
52	The Cleveland Cliffs Iron Co.	36,000	.07																			36,000				52
53	Pittsburgh Metallurgical Co., Inc.	30,000	.06				30,000															29,000				53
54	Seaberry Lumber & Chemical Co.	29,000	.06																			24,000				54
55	Delta Iron & Chemical Co.	24,000	.05																			23,700				55
56	Antrim Iron Co.	23,700	.05																							56
57	Swann Chemical Co.	23,360	.04					23,360																		57
58	Ohio Ferro-Alloys Corp.	17,500	.03		17,500																					58
59	Warner Iron Co.	15,000	.03					15,000																		59
60	Keokuk Electric-Metals Co.	15,000	.03	15,000																						60
61	Jenifer Iron Co.	12,000	.02					12,000																		61
62	The Titanium Alloy Mfg. Co.	5,000	.01				5,000																			62
	Total Capacity	52,879,640	100.00	10,283,700	15,836,700	6,189,500	3,176,100	3,444,860	1,231,200	168,000	1,661,200	3,157,700	1,009,700	1,008,400	735,000	656,800	601,000	764,080	525,000	182,500	513,000	1,022,900	167,400	440,900	100,000	
	Percentage of U. S. Capacity		100.00	19.4	29.9	11.7	6.0	6.5	2.3	.3	3.1	6.0	2.1	3.0	1.4	1.2	1.1	1.5	1.0	.3	1.0	1.9	.3	.8	.2	

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 13

PRODUCTIVE CAPACITY FOR BLOOMS, BILLETS, AND SLABS
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U. S. Capacity	BASING POINT AREAS Pittsburgh	Youngstown	Chicago	Gary	Cleveland	Buffalo	Birmingham	Duluth
1	U. S. Steel Corp.	16,645,320	33.83	6,325,700	998,400	2,486,500	2,472,000	1,934,000	159,000	1,290,720	619,000
2	Bethlehem Steel Corp.	9,751,000	19.82	7,815,000					1,900,000		36,000
3	Republic Steel Corp.	3,639,000	7.40		2,190,000	325,000		674,000	450,000		
4	Youngstown Sheet & Tube Co.	3,620,000	7.35		2,670,000		950,000				
5	Jones & Laughlin Steel Co.	2,596,800	5.28	2,596,800							
6	National Steel Corp.	1,600,000	3.25	1,000,000				600,000			
7	Inland Steel Co.	1,494,800	3.04				1,494,800				
8	Wheeling Steel Corp.	1,336,000	2.72	1,336,000							
9	Colorado Fuel & Iron Co.	810,000	1.65								810,000
10	Ford Motor Co.	800,000	1.63					800,000			
11	Crucible Steel Co. of America	767,000	1.56	655,000					112,000		
12	Pittsburgh Steel Co.	600,000	1.22	600,000							
13	International Harvester Co.	600,000	1.22			600,000					
14	Otis Steel Co.	576,000	1.17					576,000			
15	American Rolling Mill Co.	513,000	1.04			310,000		153,000		50,000	
16	Alan Wood Steel Co.	370,000	.75	370,000							
17	Allegheny Steel Co.	300,000	.61	300,000							
18	Lukens Steel Co.	300,000	.61	300,000							
19	Worth Steel Co.	300,000	.61	300,000							
20	Sharon Steel Hoop Co.	262,000	.53		262,000						
21	Gulf States Steel Co.	250,000	.51							250,000	
22	Timken Steel & Tube Co.	240,000	.49		240,000						
23	Andrews Steel Co.	200,000	.40				200,000				
24	Laclede Steel Co.	200,000	.40			200,000					
25	Phoenix Iron Co.	200,000	.40	200,000							
26	Keystone Steel & Wire Co.	170,000	.35			170,000					
27	Continental Steel Corp.	150,000	.31				150,000				
28	Wickwire Spencer Steel Co.	150,000	.31						150,000		
29	J. A. Roebling Sons Co.	150,000	.31	150,000							
30	Stanley Works	100,000	.20						100,000		
31	Atlantic Steel Co.	95,000	.19							95,000	
32	Follansbee Bros. Co.	84,500	.17	84,500							
33	Harrisburg Pipe & Pipe Bending Co.	72,000	.15	72,000							
34	Judson Mfg. Co.	50,000	.10								50,000
35	Vanadium Alloys Steel Co.	40,000	.08	40,000							
36	Wickwire Bros.	35,000	.07						35,000		
37	Washburn Wire Co. Inc.	31,600	.06						31,600		
38	Ludlum Steel Co.	31,000	.06						31,000		
39	Universal Steel Co.	26,000	.05	26,000							
40	Midvale Co.	21,500	.04	21,500							
41	Northwest Steel Rolling Mills, Inc.	12,000	.02								12,000
42	Kilby Car & Foundry Co.	8,000	.02							8,000	
43	Texas Steel Co.	4,500	.01							4,500	
44	Vulcan Crucible Steel Co.	2,500	.005	2,500							
45	Old Dominion Iron & Steel Works, Inc.	2,000	.005	2,000							
	Total Capacity	49,206,520	100.00	22,197,000	6,360,400	4,451,500	5,266,800	4,737,000	2,968,600	1,638,720	1,527,000
	Percentage of U.S. Capacity		100.00	45.0	13.0	9.1	10.7	9.7	6.0	3.4	

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 14
PRODUCTIVE CAPACITY FOR
SHEET AND TIN PLATE BARS
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U.S. Capacity	BASING POINT AREAS Youngstown	Pittsburgh	Chicago	Canton	Sparrows Point	Buffalo	Cleveland
1	U. S. Steel Corporation	3,339,380	35.90	1,233,900	1,370,880	734,600				
2	Youngstown Sheet & Tube Co	1,300,000	13.97	1,000,000		300,000				
3	Bethlehem Steel Corp.	1,150,000	12.37					800,000	350,000	
4	Republic Steel Corp.	1,064,000	11.44	300,000			380,000			384,000
5	Wheeling Steel Corp.	580,000	6.24		440,000		140,000			
6	Empire Sheet & Tin Plate Co.	270,000	2.90				270,000			
7	Inland Steel Co.	262,000	2.82			262,000				
8	Allegheny Steel Co.	220,000	2.37		220,000					
9	Follansbee Bros. Co.	179,000	1.93		179,000					
10	Granite City Steel Co.	175,540	1.89			175,540				
11	Jones & Laughlin Steel Corp.	174,000	1.87		174,000					
12	Otis Steel Co.	150,000	1.66							150,000
13	National Steel Corp.	110,000	1.18		110,000					
14	Sharon Steel Hoop Co.	100,000	1.08	100,000						
15	Andrews Steel Co.	100,000	1.08				100,000			
16	Continental Steel Corp.	75,000	.81			75,000				
17	American Rolling Mill Co.	30,000	.32			30,000				
18	Parkersburg Iron & Steel	20,000	.22				20,000			
	Total Capacity	9,298,920	100.00	2,633,900	2,493,880	1,577,140	910,000	800,000	350,000	534,000
	Per Cent of United States Capacity		100.00	28.3	26.7	17.0	9.8	8.6	3.8	5.8

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 15

PRODUCTIVE CAPACITY FOR PLATES
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	Company	Capacity (Gross Tons)	% of U. S. Capacity	CAPACITY LOCATED AT OR NEAR BASING POINTS						
				Pittsburgh	Coatesville	Gary	Chicago	Birmingham	Sparrows Point	Seattle
1	United States Steel Corp.	2,878,000	48.06	1,134,000		480,000	1,156,000	108,000		
2	Bethlehem Steel Corp.	747,500	12.49	323,000					410,000	14,500
3	Lukens Steel Corp.	416,000	6.95		416,000					
4	Republic Steel Corp.	320,000	5.49	320,000						
5	Worth Steel Corp.	228,000	3.81		228,000					
6	Central Iron & Steel Co.	214,300	3.58		214,300					
7	Jones & Laughlin Steel Co.	200,000	3.34	200,000						
8	Inland Steel Co.	200,000	3.34			200,000				
9	Alan Wood Steel Co.	130,000	2.17		130,000					
10	Otis Steel Co.	120,000	2.00	120,000						
11	Youngstown Sheet & Tube Co.	108,000	1.80	108,000						
12	National Steel Co.	100,000	1.67	100,000						
13	Granite City Steel Co.	80,000	1.34			80,000				
14	Allegheny Steel Co.	75,600	1.26	75,600						
15	International Harvester Co.	60,000	.85				60,000			
16	Gulf States Steel Co.	48,000	.80					48,000		
17	Crucible Steel Co. of Amer.	21,200	.35	21,200						
18	Pine Iron Works	12,000	.20		12,000					
19	American Rolling Mill	8,000	.13			8,000				
20	Colorado Fuel & Iron Co.	8,000	.13				8,000			
21	Universal Steel Co.	6,120	.10	6,120						
22	H. Disston & Sons Inc.	5,000	.08		5,000					
23	Jessop Steel Co.	3,350	.06	3,350						
	Total Capacity	5,989,070	100.00	2,414,620	1,005,300	768,000	1,224,000	156,000	410,000	14,500
	Percentage of U.S. Capacity		100.00	40.3	16.8	12.8	20.5	2.6	6.8	0.2

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

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TABLE 16

PRODUCTIVE CAPACITY FOR SHEETS
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U. S. Capacity	BASING POINT AREAS Pittsburgh	Gary Ind.	Birmingham	SanPedro Cal.	SanFrancisco
1	United States Steel Corp.	1,361,200	18.67	564,100	564,000	153,800	48,000	30,700
2	American Rolling Mills Co.	1,059,900	14.55	723,500	336,400			
3	Republic Steel Corp.	813,000	11.17	813,000				
4	Youngstown Sheet & Tube Co.	508,000	6.97	508,000				
5	Inland Steel Co.	454,000	6.24		454,000			
6	Wheeling Steel Corp.	427,000	5.86	427,000				
7	National Steel Corp.	313,000	4.30	313,000				
8	Bethlehem Steel Corp.	299,000	4.11	299,000				
9	Otis Steel Co.	240,000	3.30	240,000				
10	Empire Sheet & Tin Plate Co.	232,000	3.19	232,000				
11	Allegheny Steel Co.	190,200	2.61	190,200				
12	Andrews Steel Co.	180,000	2.47		180,000			
13	Continental Steel Corp.	179,100	2.46	72,000	107,100			
14	Apollo Steel Co.	120,000	1.65	120,000				
15	Granite City Steel Co.	118,000	1.62		118,000			
16	Alan Wood Steel Co.	108,000	1.48	108,000				
17	Follansbee Bros. Co.	93,000	1.28	93,000				
18	Eastern Rolling Mill Co.	90,000	1.24	90,000				
19	Sharon Steel Hoop Co.	75,700	1.04	75,700				
20	Ingersoll Steel & Disc Co.	72,500	1.00		72,500			
21	Mahoning Valley Steel Co.	65,000	.89	65,000				
22	Reeves Mfg. Co.	50,000	.69	50,000				
23	Gulf States Steel Co.	50,000	.69			50,000		
24	Cannonsburg Steel & Iron Works	35,000	.48	35,000				
25	Parkersburg Iron & Steel Co.	32,100	.44	32,100				
26	Worth Steel Co.	24,000	.33	24,000				
27	W. H. Davey Steel Co.	24,000	.33	24,000				
28	Crucible Steel Co. of America	22,600	.31	22,600				
29	Jones & Laughlin Steel Co.	12,000	.17	12,000				
30	Universal Steel Co.	11,712	.16	11,712				
31	H. Disston & Sons, Inc.	9,500	.13	9,500				
32	Wilkes Rolling Mill Co.	5,000	.07	5,000				
33	Jessop Steel Co.	4,150	.06	4,150				
34	Simonds Saw & Steel Co.	3,200	.04	3,200				
	Total Capacity	7,281,862	100.00	5,166,762	1,832,000	203,800	48,000	30,700
	Percentage of U.S. Capacity		100.00	71.1	25.3	2.5	.7	.4

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Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 17

PRODUCTIVE CAPACITY FOR
TIN MILL BLACK PLATE
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U.S. Capacity	BASING POINT AREAS Pittsburgh	Gary	San Francisco
1	U.S.Steel Corp.	1,007,400	36.50	615,300	360,100	32,000
2	National Steel	334,800	12.12	334,800		
3	Behtlehem Steel	214,000	7.76	214,000		
4	McKessport Tin Plate Co.	180,000	6.52	180,000		
5	Jones & Loughlin	168,000	6.09	168,000		
6	Wheeling Steel	133,000	4.82	133,000		
7	Republic Steel	126,500	4.59	126,500		
8	Youngstown Sheet & Tube Co.	120,000	4.35		120,000	
9	Inland Steel Co.	120,000	4.35		120,000	
10	Continental Can Co.	110,000	3.99	110,000		
11	Granite City Steel	75,000	2.72		75,000	
12	Follansbee Bros.Co.	54,800	1.99	54,800		
13	Robertson Steel & Iron Co., H. F.	45,000	1.63	45,000		
14	Canton Tin Plate Co.	36,000	1.31	36,000		
15	Washington Tin Plate	22,600	.82	22,600		
16	Davey Steel Co.,W.H.	12,000	.44	12,000		
	Total Capacity	2,759,100	100.00	2,052,000	675,100	32,000
	Per Cent of United States Capacity		100.00	74.4	24.4	1.2

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 18

PRODUCTIVE CAPACITY FOR
HOT ROLLED STRIPS
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U.S. Capacity	BASING POINT AREAS Pitts-burgh	Chicago	Bir-mingham
1	United States Steel Corp.	1,231,500	29.23	636,500	590,000	5,000
2	National Steel Corp.	603,000	14.32	603,000		
3	Republic Steel Corp.	534,500	12.65	534,500		
4	Acme Steel Co.	430,000	10.21		430,000	
5	West Leechburg Steel Co.	240,000	5.68	240,000		
6	Sharon Steel Hoop Co.	230,200	5.45	230,200		
7	Otis Steel Co.	135,000	3.21	135,000		
8	International Harvester Co.	110,000	2.61		110,000	
9	Superior Steel Corp.	107,000	2.52	107,000		
10	Stanley Works	92,500	2.21	92,500		
11	Laclede Steel Co.	90,550	2.15		90,550	
12	Youngstown Steel & Tube Co.	75,000	1.79	54,000	21,000	
13	McLouth Steel Corp.	50,000	1.19	50,000		
14	Ford Motor Co.	42,700	1.01	42,700		
15	Inland Steel Co.	40,000	.95		40,000	
16	Atlantic Steel Co.	36,000	.85			36,000
17	Washburn Wire Co., Inc.	25,000	.59	25,000		
18	Harrisburg Steel Co.	25,000	.59	25,000		
19	Jones & Laughlin Steel Corp.	18,000	.43	18,000		
20	J. A. Roebling Sons, Inc.	15,000	.36	15,000		
21	Connors Steel Co.	15,000	.36			15,000
22	Carpenter Steel Co.	12,700	.30	12,700		
23	Crucible Steel Co. of America	11,700	.28	11,700		
24	Joslyn Mfg. & Supply Co.	10,760	.26		10,760	
25	Universal Steel Co.	6,468	.15	6,468		
26	H. Disston & Sons, Inc.	5,000	.12	5,000		
27	Colorado Fuel & Iron Co.	5,000	.12		5,000	
28	Wrought Washer Mfg. Co.	5,000	.12		5,000	
29	Buffalo Steel Co.	4,000	.09	4,000		
30	Highland Iron & Steel Co.	3,800	.09		3,800	
31	Granite City Steel Co.	2,000	.05		2,000	
32	Knoxville Iron Co.	1,500	.04			1,500
33	Jessop Steel Co.	1,000	.02	1,000		
	Total Capacity	4,214,878	100.00	2,849,268	1,308,110	57,500
	Per Cent of United States Capacity		100.00	67.7	31.0	1.3

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

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TABLE 19

PRODUCTIVE CAPACITY FOR
COLD ROLLED STRIPS
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U.S. Capacity	BASING POINT AREAS Pitts-burgh	Cleve-land	Worces-ter
1	Cold Metal Process Co.	180,000	13.06		180,000	
2	Republic Steel Corp.	175,700	12.73		175,700	
3	U. S. Steel Corp.	133,800	9.71		120,400	13,400
4	Detroit Steel Corp.	123,000	8.93		123,000	
5	Acme Steel Co.	76,000	5.52		76,000	
6	National Steel Corp.	65,000	4.72	65,000		
7	Otis Steel Co.	65,000	4.72		65,000	
8	Stanley Works	64,000	4.65			64,000
9	West Leechburg Steel Co.	54,000	3.92	54,000		
10	Superior Steel Corp.	54,000	3.92	54,000		
11	Thomas Steel Co.	45,000	3.27		45,000	
12	Sharon Steel Hoop Co.	44,600	3.24		44,600	
13	Griffin Mfg. Co.	25,500	1.85		25,500	
14	Rotary Electric Steel Co.	25,000	1.81		25,000	
15	Brainard Steel Corp.	24,500	1.78		24,500	
16	Greer Steel Co.	24,000	1.74		24,000	
17	Youngstown Sheet & Tube Co.	21,000	1.52		21,000	
18	Wallingford Steel Co.	20,400	1.48			20,400
19	J. A. Roebling's Sons, Inc.	20,000	1.45			20,000
20	Bopp Steel Corp.	16,500	1.20		16,500	
21	Blair Strip Steel Co.	14,400	1.05	14,400		
22	Newman Crosby Steel Corp.	13,000	.94			13,000
23	Wickwire Spencer Steel Co.	10,400	.76			10,400
24	Thompson Wire Co.	10,000	.73			10,000
25	Rome Strip Steel Co., Inc.	9,000	.65			9,000
26	Crescent Insulated Wire & Cable Co.	9,000	.65			9,000
27	Inland Steel Corp.	8,000	.58		8,000	
28	Worcester Pressed Steel Co.	6,750	.48			6,750
29	Wallace Barnes Co.	6,000	.44			6,000
30	Allegheny Steel Co.	6,000	.44	6,000		
31	Crucible Steel Co. of America	5,400	.39			5,400
32	Universal Steel Co.	4,900	.36	4,900		
33	Athenia Steel Co.	4,000	.29			4,000
34	Buffalo Bolt Co.	4,000	.29			4,000
35	Carpenter Steel Co.	3,500	.25	3,500		
36	Hind Steel Co., Inc.	2,400	.17			2,400
37	Driver-Harris Co.	1,200	.09			1,200
38	Granite City Steel Co.	1,000	.07		1,000	
39	Igoe Bros.	1,000	.07			1,000
40	Alloy Metal Wire Co., Inc.	1,000	.07	1,000		
	Total Capacity	1,377,950	100.00	202,800	975,200	199,950
	Per Cent of United States Capacity		100.00	14.7	70.8	14.5

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 20

PRODUCTIVE CAPACITY FOR [illegible] AND CONCRETE REINFORCING BARS BY [illegible]ES AND BASING POINT AREAS: 1934

Rank	Name	COMPANY Capacity (Net Tons)	% of U. S. Capacity	BASING POINT AREAS Pittsburgh	Gary Ind.	Chicago Ill.	Cleveland Ohio	Youngstown Ohio	Buffalo N.Y.	Birmingham, Ala.	San Francisco	Gulf Ports	San Pedro	Duluth	Seattle	Wollast
1	United States Steel Corp.	5,891,800	30.08	1,199,600	978,500	350,700		674,000	5,000	246,300			87,400	120,000		
2	Republic Steel Corp.	2,086,000	16.61	25,000		217,000	966,000	430,000	351,000							51,000
3	Bethlehem Steel Corp.	1,557,100	12.62	948,700					400,000			79,500			63,900	
4	Jones & Laughlin Steel Co.	814,100	6.64	814,100												
5	Crucible Steel Co. of America	491,600	4.01	409,800					81,800							
6	National Steel Corp.	365,750	2.98	29,750			336,000									
7	Inland Steel Corp.	315,000	2.57		315,000											
8	Youngstown Sheet & Tube Co.	309,000	2.52		174,000			135,000								
9	International Harvester Co.	275,000	2.24			275,000										
10	American Rolling Mill Co.	238,600	1.95			203,600							35,000			
11	Reading Iron Co.	131,050	1.07	131,050												
12	Colorado Fuel & Iron Co.	121,000	.99										121,000			
13	Ford Motor Co.	117,600	.96				117,600									
14	Lukens Steel Co.	114,000	.93			114,000										
15	Sellers Mfg. Co.	100,000	.82			100,000										
16	Timken Steel & Tube Co.	93,033	.76					93,033								
17	Colo. States Steel Co.	83,800	.68							83,800						
18	Rotary Electric Steel Co.	80,000	.65				80,000									
19	Wrought Iron Co.	75,000	.61	75,000												
20	Knoxville Iron Co.	74,600	.61							74,600						
21	American Car & Foundry Co.	72,000	.59	72,000												
22	Missouri Rolling Mill Corp.	70,000	.57			70,000										
23	Kilby Car & Foundry Co.	54,000	.44							54,000						
24	Atlantic Steel Co.	52,500	.43							52,500						
25	Calumet Steel Co.	50,000	.41		50,000											
26	Simmons Co.	50,000	.41			40,000						10,000				
27	Lockhart Iron & Steel Co.	49,100	.40	49,100												
28	Buffalo Bolt Co.	49,000	.40						49,000							
29	Judson Mfg. Co.	48,200	.39									48,200				
30	West Virginia Rail Co.	47,000	.38	47,000												
31	Logan Iron & Steel Co.	45,000	.37	45,000												
32	Franklin Steel Works	45,000	.37					45,000								
33	Highland Iron & Steel Co.	44,500	.36		44,500											
34	Pollak Steel Co.	40,000	.33				40,000									
35	Buffalo Steel Co.	32,000	.26						32,000							
36	Wilson Mfg. Co.	30,000	.25	30,000												
37	Sweets Steel Co.	30,000	.25	30,000												
38	W. Ames & Co.	25,000	.20						25,000							
39	Thedegar Co.	24,000	.20	24,000												
40	Joselyn Mfg. & Supply Co.	22,200	.18		19,200	3,000										
41	Commore Steel Co.	21,000	.17							21,000						
42	Vanadium Alloys Steel Co.	20,000	.16	20,000												
43	Bancroft & Martin Rolling Mill	18,000	.15						18,000							
44	Texas Steel Co.	18,000	.15									18,000				
45	Ulster Iron Works	16,000	.13						16,000							
46	Carpenter Steel Co.	15,300	.13	15,300												
47	Empire Steel Co.	15,000	.12						15,000							
48	Emery Peascod & Sons	15,000	.12	15,000												
49	Harrisburg Steel Corp.	15,000	.12	15,000												
50	Jessop Steel & Iron Co.	15,000	.12	15,000												
51	McKeesport Rolling Mill Co.	15,000	.12						15,000							
52	St. Louis Screw & Bolt Co.	15,000	.12			15,000										
53	Universal Steel Co.	13,200	.11	13,200												
54	Ewald Iron Co.	12,000	.10							12,000						
55	Nicetown Plate Washer Co.	12,000	.10	12,000												
56	Penn Iron & Steel Co.	12,000	.10	12,000												
57	Northwest Steel Rolling Mills	11,900	.10												11,900	
58	Firth Sterling Steel Co.	9,100	.07	9,100												
59	Northern Steel Co.	9,000	.07						9,000							
60	Wasvale Steel Co.	5,400	.04	5,400												
61	Allegheny Steel Co.	5,400	.04	5,400												
62	Cia Dominicana Iron & Steel Works	5,000	.04	5,000												
63	Wilkes Rolling Mill Co.	5,000	.04	5,000												
64	Baltimore & Ohio R.R.	4,000	.03	4,000												
65	Wickstrom Bros.	2,750	.02						2,750							
66	Simonds Saw & Steel Co.	2,600	.02						2,600							
67	Phoenix Iron Co.	2,000	.02	2,000												
	Total Capacity	12,269,883	100.00	4,083,100	1,579,200	1,418,300	1,539,600	1,377,033	1,022,150	546,200	137,700	174,000	145,400	120,000	63,900	51,000
	Percentage of U.S. Capacity		100.00	33.4	12.9	11.6	12.6	11.2	8.2	4.5	1.1	1.4	1.2	1.0	.5	.4

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 21

PRODUCTIVE CAPACITY FOR
STRUCTURAL SHAPES
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	Company	Capacity (Tons)	% of U. S. Capacity	BASING POINT AREAS								
				Pittsburgh	Bethlehem	Chicago	Buffalo	Birmingham	SanFrancisco	Seattle	Houston Texas	SanPedro Cal.
1	United States Steel Corp.	2,307,800	44.33	965,300	198,000	1,025,400		84,000				35,100
2	Bethlehem Steel Corp.	1,919,000	36.87	14,400	1,175,000		650,000		52,500	27,100		
3	Jones & Laughlin Steel Corp.	353,000	6.78	353,000								
4	Phoenix Iron Co.	162,000	3.11		162,000							
5	American Rolling Mill Co.	110,000	2.11			110,000						
6	National Steel Corp.	100,000	1.92	100,000								
7	Inland Steel Corp	100,000	1.92			100,000						
8	Youngstown Sheet & Tube Co.	60,000	1.15	24,000		36,000						
9	Colorado Fuel & Iron Co.	45,000	.87								45,000	
10	Joselyn Mfg. & Supply Co.	15,040	.29			15,040						
11	International Harvester Co.	15,000	.29			15,000						
12	Atlantic Steel Co.	10,000	.19					10,000				
13	Northern Steel Co.	3,500	.07		3,500							
14	Knoxville Iron Co.	3,000	.06					3,000				
15	Laclede Steel Co.	2,000	.04			2,000						
	Total Capacity	5,205,340	100.00	1,456,700	1,538,500	1,303,440	650,000	97,000	52,500	27,100	45,000	35,100
	Percentage of U.S. Capacity		100.00	28.1	29.5	24.9	12.5	1.9	1.0	0.5	0.9	0.7

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 22

PRODUCTIVE CAPACITY FOR SKELP
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	Company	Capacity (Tons)	% of U. S Capacity	BASING POINT AREAS: Pittsburgh	Youngstown	Chicago	Sparrows Point	Coatesville
1	U. S. Steel Corp.	1,942,200	48.80	597,800	833,500	510,900		
2	Youngstown Sheet & Tube	608,000	15.28		368,000	240,000		
3	Jones & Laughlin Steel Corp.	423,000	10.64	423,000				
4	Bethlehem Steel Corp.	265,000	6.67				265,000	
5	Republic Steel Corp.	240,000	6.03		240,000			
6	Wheeling Steel Corp.	240,000	6.03	240,000				
7	Reading Iron Works	140,000	3.53					140,000
8	A.M. Byers Co.	90,000	2.26	90,000				
9	Cohoes Rolling Mill Co.	30,000	.75					30,000
10	Laclede Steel Co.	2,500	.06			2,500		
	Total Capacity	3,980,700	100.00	1,350,800	1,441,500	753,400	265,000	170,000
	Percentage of U.C. Capacity		100.00	34.0	36.2	18.9	6.6	4.3

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 23

PRODUCTIVE CAPACITY FOR
PIPE AND TUBULAR PRODUCTS
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	Name	Capacity (Tons)	% of U.S. Capacity	BASING POINT AREAS: Pittsburgh	Gary	Lorain, O.	Base Unknown
1	U. S. Steel Corp.	2,344,800	26.81	1,103,000	571,000	670,000	
2	Youngstown Sheet & Tube Co.	1,318,000	15.07	933,000	385,000		
3	A. O. Smith Corp.	950,000	10.86		950,000		
4	Republic Steel Corp.	742,000	8.49	742,000			
5	Jones & Laughlin Steel Corp.	636,000	7.26	636,000			
6	Spang, Chalfont & Co., Inc.	525,000	6.01	525,000			
7	Pittsburgh Steel Co.	300,000	3.42	300,000			
8	Wheeling Steel Corp.	276,000	3.16	276,000			
9	Central Tube Co.	236,100	2.70	236,100			
10	Timken Steel & Tube Co.	211,000	2.47			211,000	
11	Bethlehem Steel Corp.	199,000	2.28	199,000			
	Clayton Mark & Co.	126,000	1.44		126,000		
13	Reading Iron Works	114,000	1.30	114,000			
14	A. M. Byers Co.	85,800	.98	85,800			
15	Wheatland Tube Co.	84,000	.96	84,000			
16	Steel & Tube, Inc.	69,500	.79	15,000		54,500	
17	South Chester Tube Co.	62,000	.71	62,000			
18	Pittsburgh Tube Co.	58,500	.67	58,500			
19	Globe Steel Tube Co.	54,000	.62		54,000		
20	Fretz-Moon Tube Co., Inc.	50,000	.57	50,000			
21	Mercer Tube & Mfg. Co.	50,000	.57	50,000			
22	Ohio Seamless Tube Co.	48,000	.55			48,000	
23	Laclede Steel Co.	40,000	.46		40,000		
24	Cohoes Rolling Mill Co.	30,000	.34	30,000			
25	Babcock & Wilcox Tube Co.	26,450	.30	26,450			
26	Detroit Seamless Steel Tube Co.	25,800	.30			25,800	
27	Allegheny Steel Co.	17,400	.20	17,400			
	Taylor Forge & Pipe Works	13,200	.15		13,200		
29	American Concrete & Steel Pipe	12,500	.14				12,500
30	West Coast Pipe & Steel Co.	12,000	.14				12,000
31	Rome Mfg. Co.	10,000	.11	10,000			
32	Michigan Seamless Tube Co.	6,000	.07			6,000	
33	Sharon Tube Co.	5,400	.06	5,400			
34	Steel Tank & Pipe Co. of Oregon	1,500	.02				1,500
35	Irvins' Steel Tube Works, Inc.	1,350	.02	1,350			
	Total Capacity	8,741,300	100.00	5,560,000	2,140,000	1,015,300	26,000
	Per Cent of United States Capacity		100.00	63.6	24.5	11.6	.03

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

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TABLE 24

PRODUCTIVE CAPACITY FOR TIN PLATE AND TERNE PLATE - BY COMPANIES AND BASING POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U.S. Capacity	BASING POINT AREAS Pittsburgh	Gary	San Francisco
1	United States Steel Corp.	879,200	33.00	512,600	335,200	31,400
2	National Steel Corp.	297,000	11.15	297,000		
3	Continental Can Co. Inc.	244,000	9.15	144,000	100,000	
4	Bethlehem Steel Corp.	200,000	7.50	200,000		
5	McKeesport Tin Plate Co.	180,000	6.76	180,000		
6	Wheeling Steel Corp.	150,000	5.66	150,000		
7	Republic Steel Corp.	142,700	5.36	142,700		
8	Jones & Laughlin Steel	142,000	5.33	142,000		
9	Youngstown Sheet & Tube	120,000	4.50		120,000	
10	Inland Steel Co.	100,000	3.75		100,000	
11	Granite City Steel Co.	63,000	2.37		63,000	
12	Follansbee Bros. Co.	52,200	1.96	52,200		
13	W. F. Robertson Steel & Iron Co.	45,000	1.69	45,000		
14	Washington Tin Plate Co.	26,000	.98	26,000		
15	Canton Tin Plate Co.	22,300	.84	22,300		
	Total Capacity	2,663,400	100.00	1,913,800	718,000	31,400
	Per Cent of United States Capacity		100.0	72.0	26.8	1.2

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 25

PRODUCTIVE CAPACITY FOR WIRE RODS
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U.S. Capacity	BASING POINT AREAS Pittsburgh	Chicago	Cleveland	Birmingham	Youngstown	Worcester	Anderson	SanFrancisco
1	United States Steel Corp.	2,061,500	46.50	435,000	561,000	375,000	110,000	150,000	265,500	105,000	40,000
2	Bethlehem Steel Corp.	325,000	7.33	325,000							
3	Pittsburgh Steel Co.	300,000	6.77	300,000							
4	Jones & Laughlin Steel Corp.	294,000	6.63	294,000							
5	Keystone Steel & Wire Co.	170,000	3.83		170,000						
6	Continental Steel Corp.	147,000	3.32							147,000	
7	Youngstown Sheet & Tube Co.	144,000	3.25					144,000			
8	John A. Roebling Sons, Inc.	130,000	2.93						130,000		
9	Wheeling Steel Corp.	126,000	2.84							126,000	
10	Wickwire Spencer Steel Co.	125,000	2.82					125,000			
11	Gulf States Steel Co.	115,800	2.61				115,800				
12	Republic Steel Corp.	104,000	2.35		104,000						
13	Highland Iron & Steel Co.	90,000	2.03	90,000							
14	Colorado Fuel & Iron Co.	62,500	1.41		62,500						
15	Ford Motor Co.	41,400	.93			41,400					
16	American Rolling Mill Co.	38,000	.86		38,000						
17	Atlantic Steel Co.	35,000	.79				35,000				
18	Wickwire Bros.	34,450	.78						34,450		
19	Washburn Wire Co, Inc.	25,000	.56						25,000		
20	Crucible Steel Co. of America	23,145	.52						23,145		
21	Buffalo Bolt Co.	16,000	.36					16,000			
22	Copperweld Steel Co.	15,000	.34	15,000							
23	Ludlum Steel Co.	3,000	.07						3,000		
24	Rustless Iron Corp. of America	3,000	.07	3,000							
25	Laclede Steel Co.	2,500	.06		2,500						
26	Universal Steel Co.	1,968	.04	1,968							
	Total U.S. Capacity	4,433,763	100.00	1,463,968	938,000	426,400	260,800	435,000	481,095	378,000	40,000
	Percentage of U.S. Capacity		100.00	33.2	21.2	9.6	5.9	9.8	10.9	8.5	.9

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 26

PRODUCTIVE CAPACITY FOR PLAIN-DRAWN WIRE
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U. S. Capacity	BASING POINT AREAS Pitts-burgh	Cleveland	Chicago	Anderson	Birmingham	Worcester	Houston Texas	Duluth Minn.	SanFran-cisco,Cal.	Glassport Penna.
1	U.S. Steel Corp.	1,647,150	40.52	366,000	326,000	389,900	67,000	91,000	290,450		87,000	29,500	
2	Pittsburgh Steel Co.	250,000	6.14	250,000									
3	Jones & Laughlin Steel Corp.	198,200	4.87	198,200									
4	Bethlehem Steel Corp.	185,000	4.54	185,000									
5	Northwestern Barb Wire Co.	180,000	4.43			180,000							
6	Keystone Steel & Wire Co.	163,000	4.01			125,000	38,000						
7	Wickwire Spencer Steel Co.	154,400	3.80		84,400				70,000				
8	Wheeling Steel Corp.	150,000	3.69				150,000						
9	Continental Steel Corp.	135,000	3.32				135,000						
10	Gulf States Steel Co.	134,000	3.30					134,000					
11	John A. Roebling Sons, Inc.	118,000	2.90						118,000				
12	Youngstown Sheet & Tube Co.	100,000	2.46		100,000								
13	American Chain Co.	90,000	2.21	90,000									
14	Colorado Fuel & Iron Co.	62,500	1.54							62,500			
15	Ford Motor Co.	47,500	1.17		47,500								
16	American Rolling Mills Co.	45,000	1.11			45,000							
17	Republic Steel Corp.	38,000	.94			38,000							
18	Wickwire Bros.	32,000	.79						32,000				
19	Seneca Wire & Mfg. Co.	28,700	.71		28,700								
20	Atlantic Steel Co.	25,000	.62					25,000					
21	Atlantic Wire Co.	22,000	.54						22,000				
22	Wilson Steel & Wire Co.	20,000	.49			20,000							
23	Igoe Bros.	18,000	.44						18,000				
24	National Standard Co.	17,500	.43						17,500				
25	Buffalo Bolt Co.	16,000	.39		16,000								
26	Laclede Steel Co.	15,000	.37			15,000							
27	Copperweld Steel Co.	15,000	.37										15,000
28	Western Automatic Mach. Screw Co.	10,800	.27		10,800								
29	Johnson Steel & Wire Co., Inc.	10,000	.25						10,000				
30	Wright Steel & Wire Co.	10,000	.25						10,000				
31	Bridgeport Screw Co.	10,000	.25						10,000				
32	MacWhyte Co.	10,000	.25			10,000							
33	Crucible Steel Co. of America	9,000	.22						9,000				
34	Cuyahoga Steel & Wire Co.	8,600	.21		8,600								
35	Chicago Steel & Wire Co.	8,500	.21			8,500							
36	G. W. Prentice & Co.	8,400	.21						8,400				
37	Driscoll Wire Co.	8,000	.20						8,000				
38	New England High Carbon Wire Co.	7,800	.19						7,800				
39	Union Wire Rope Corp.	7,500	.19			7,500							
40	Texas Nail & Wire Co.	7,000	.17							7,000			
41	Washburn Wire Co., Inc.	6,000	.15						6,000				
42	Kilwood Steel Corp.	6,000	.15	6,000									
43	Alloy Metal Wire Co. Inc.	4,800	.12						4,800				
44	Thompson Wire Co.	4,000	.10						4,000				
45	Carpenter Steel Co.	3,200	.08						3,200				
46	Stewart Hartshorn Co.	3,000	.07						3,000				
47	California Wire Cloth Co., Inc.	3,000	.07									3,000	
48	Driver-Harris Co.	3,000	.07						3,000				
49	Madison Wire Co., Inc.	3,000	.07		3,000								
50	Lundum Steel Co.	2,400	.06		2,400								
51	Universal Steel Co.	2,000	.05	2,000									
52	Keystone Drawn Steel Corp.	1,500	.04						1,500				
	Total Capacity	4,064,450	100.00	1,097,500	627,400	838,900	390,000	250,000	656,650	69,500	87,000	32,500	15,000
	Percentage of U.S. Capacity		100.00	27.0	15.0	20.5	9.6	6.5	16.1	1.7	2.1	.8	.4

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 27

PRODUCTIVE CAPACITY FOR WIRE PRODUCTS
BY COMPANIES AND BASING POINT AREAS: 1934

Rank	COMPANY Name	Capacity (Tons)	% of U. S. Capacity	BASING POINT AREAS: Pittsburgh Pa.	Birmingham Ala.	Anderson Ind.	Chicago Ill.	Houston Texas	Duluth Minn.	Cleveland Ohio	SanFrancisco Cal.	Galveston Texas
1	United States Steel Corp.	1,030,100	42.21	404,800	151,800	58,900	242,450		71,000	79,900	21,250	
2	Pittsburgh Steel Corp.	225,000	9.22	225,000								
3	Gulf States Steel Corp.	176,000	7.21		176,000							
4	Northwestern Barb Wire Co.	171,700	7.04				171,700					
5	Keystone Steel & Wire Co.	141,000	5.78			23,000	118,000					
6	Jones & Laughlin Steel Corp.	123,900	5.08	123,900								
7	Bethlehem Steel Corp.	89,000	3.65	89,000								
8	Wheeling Steel Corp.	86,000	3.52			86,000						
9	Continental Steel Corp.	85,000	3.48			85,000						
10	Youngstown Sheet & Tube Co.	71,000	2.91							71,000		
11	Colorado Fuel & Iron Co.	68,500	2.81					68,500				
12	American Rolling Mill Co.	43,000	1.76				43,000					
13	American Chain Co.	31,250	1.28	31,250								
14	Texas Nail & Wire Co.	29,000	1.19									29,000
15	Atlantic Steel Co.	18,100	.74		18,100							
16	Wilson Steel & Wire Co.	16,000	.66				16,000					
17	Wickwire Bros.	10,500	.43	10,500								
18	Republic Steel Corp.	6,400	.26				6,400					
19	Ellwood Steel Corp.	6,000	.25	6,000								
20	Wickwire Spencer Steel Co.	6,000	.25							6,000		
21	Kokomo Nail & Brad Co.	4,200	.17			4,200						
22	Igoe Bros	2,500	.10	2,500								
	Total Capacity	2,440,150	100.00	892,950	345,900	257,100	597,550	68,500	71,000	156,900	21,250	29,000
	Percentage of U.S. Capacity		100.00	36.5	14.2	10.6	24.5	2.8	2.9	6.4	.9	1.2

Source: Compiled by National Recovery Administration from the Iron and Steel Works Directory of the United States and Canada, American Iron and Steel Institute.

TABLE 28

Median Average Size of Capacities and Percentage of Industry Capacity of Iron and Steel Companies

Product	Size in Tons of Capacity	Percentage of Industry Capacity
Pig Iron	151,000	.29
Steel Ingots & Steel for Casting	144,800	.20
Blooms, Billets, Slabs	240,000	.49
Sheet & Tin Plate Bars	179,000	1.93
Sheets	93,000	1.28
Hot Rolled Strips	36,000	.85
Cold Rolled Strips	16,500	1.20
Tin Mill Black Plate	120,000	4.35
Tin Plate	142,700	5.36
Merchant Bars	44,500	.36
Structural Shapes	60,000	1.15
Plates	108,000	1.80
Wire Rods	90,000	2.03
Plain Wire	15,000	.37
Wire Products	68,500	2.81
Skelp	240,000	6.03
Pipe & Tubular Products	62,000	.71

Source: Compiled by N.R.A. from Iron and Steel Works Directory of the U. S. and Canada for 1935, American Iron and Steel Institute.

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TABLE 29

DISTRIBUTION OF IRON AND STEEL COMPANIES BY PERCENTAGE OF INDUSTRY CAPACITY: 1934

	Pig Iron	Steel Ingots for Steel Cast.	Blooms Billets Slabs	Merchant Bars & R.I. Bars	Plates	Structural Shapes	Sheet Bars	Sheets	Hot Rolled Strips	Cold Rolled Strips	Wire Rods	Plain Wire	Wire Products	Skelp	Pipe & Tubular Products	Tin Mill Black Plate	Tin Plate
0 - 0.4%	38	48	24	45	7	6	2	11	15	13	6	31	6	1	13	1	0
0.5 - 0.9	10	7	6	11	2	1	1	3	4	6	6	5	2	1	9	1	2
1.0 - 1.9	7	7	7	2	4	3	7	7	3	9	1	3	8	0	2	3	2
2.0 - 4.9	2	5	3	5	6	2	3	7	5	7	9	11	5	2	5	6	3
5.0 - 9.9	3	2	3	1	2	1	1	3	2	3	3	1	0	3	3	3	6
10.0 - 14.9	1	1	0	1	1	0	3	2	3	2	0	0	0	1	1	1	1
15.0 - 19.9	0	0	1	1	0	0	0	1	0	0	0	0	0	1	1	0	0
20.0 - 24.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25.0 - 29.9	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0
30.0 - 39.9	0	1	1	1	0	1	1	0	0	0	0	0	0	0	0	1	1
40.0 - 49.9	1	0	0	0	1	1	0	0	0	0	1	1	1	1	0	0	0
50.0 - 59.9		0															
Total Companies	62	71	45	67	23	15	18	34	33	40	26	52	22	10	35	16	15

Source: Compiled by National Recovery Administration from Iron and Steel Works Directory of the United States and Canada for 1935, American Iron and Steel Institute.

TABLE 30

Comparative Industry Position of Multiple Mill and Single Mill Companies

- - - - -

Product	Total Companies	Total Mills	Multiple Mill Companies	No. of Plants of Multiple Mill Companies	% of U. S. Capacity Controlled by Multiple Companies.
Pig Iron	62	115	14	67	82.87
Steel Ingots & Steel for Casting	71	128	14	68	80.08
Blooms, Billets & Slabs	45	90	11	56	82.39
Sheet & Tin Plate Bars	18	34	5	21	79.92
Sheets	34	68	12	46	73.87
Hot Rolled Strips	33	45	6	18	58.53
Cold Rolled Strips	40	44	3	7	27.09
Tin Mill Black Plates	16	28	4	16	58.03
Tin Plate	15	24	5	14	64.32
Merchant & Concrete Reinforcing Bars	67	112	13	58	82.56
Structural Shapes	15	29	4	18	89.13
Plates	23	30	2	9	60.55
Wire Rods	26	39	3	16	54.35
Plain Wire	52	73	5	27	53.52
Wire Products	22	36	3	18	51.64
Skelp	10	21	5	16	84.28
Pipe & Tubular Prod.	35	51	8	24	60.01
Steel Rails	4	8	2	6	82.05

SOURCE: Compiled by NRA from Iron and Steel Works Directory of the United States and Canada for 1935. American Iron and Steel Institute.

TABLE 31

Distribution of Iron and Steel Companies by the Number of Major Products Produced: 1934

Number of Products	NUMBERS OF COMPANIES Including Pig Iron	Excluding Pig Iron
19	1	0
18	0	1
17	4	0
16	0	4
15	0	0
14	1	0
13	1	1
12	1	1
11	2	1
10	1	3
9	2	1
8	5	4
7	5	3
6	5	8
5	7	7
4	11	10
3	12	13
2	30	31
1	144	101
Total	232	189

NOTE. Products used as a basis for comparison are:

Iron
Steel Ingots & Steel for Casting
Blooms, Billets & Slabs
Steel & Tin Plate Bars
Sheets
Hot Rolled Strips
Cold Rolled Strips
Tin Mill Black Plate
Tin Plate
Merchant & Concrete Reinforcing Bars
Structural Shapes
Plates
Wire Rods
Plain Wire
Wire Products
Skelp
Pipe & Tubular Products
Steel Rails
Cold Drawn Bars

Source: Compiled from Iron and Steel Works Directory of the United States and Canada for 1935. American Iron and Steel Institute.

TABLE 32

Industry Position of the Five Largest Steel Companies: 1934

	U. S. Steel Corp.	Bethlehem Steel Corp.	Republic Steel Corp.	Jones & Laughlin Steel Corp.	Youngstown Sheet & Tube Co.	Total % of U. S.
Pig Iron and Ferro Alloys	40.61	12.00	7.21	5.65	5.65	71.12
Steel Ingots & Steel for Casting	38.25	13.09	8.57	5.15	4.36	69.42
Blooms Billets Slabs	33.83	19.82	7.40	5.28	7.35	73.68
Merchant & R.I. Bars	30.08	12.62	16.61	6.64	2.52	68.47
Plates	48.06	12.49	5.49	3.34	1.80	71.18
Structural Shapes	44.33	36.87	....	6.78	1.15	89.13
Sheet Bars	35.90	12.37	11.44	1.87	13.97	75.55
Sheets	18.67	4.11	11.17	.17	6.97	41.09
Hot Rolled Strips	29.23	....	12.65	.43	1.79	44.10
Cold Rolled Strips	9.71	....	12.73	....	1.52	23.96
Wire Rods	46.50	7.33	2.35	6.63	3.25	66.06
Plain Wire	40.52	4.54	.94	4.87	2.46	53.33
Wire Products	42.21	3.65	.26	5.08	2.91	54.11
Skelp	48.80	6.67	6.03	10.64	15.28	87.42
Pipe & Tubular Products	26.81	2.28	9.27	7.26	15.07	60.69
Tin Mill Black Plate	36.50	7.76	4.59	6.09	4.35	59.29
Tin Plate & Terne Plate	33.00	7.50	5.36	5.33	4.50	55.69

Source: Compiled by NRA from Iron & Steel Works Directory of the U. S. and Canada for 1935, American Iron and Steel Institute.

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TABLE 33

AVERAGE SIZE OF BLAST FURNACE ESTABLISHMENTS: 1899-1933

(IN THOUSANDS OF DOLLARS)

Year	No. of Establishments	Wage Earners (Average for Year)	Wage Earners (Average for Establishment)	Wages	Average Wages per Establishment	Value of Product	Average Value of Product per Establishment	Value Added by Manufacture	Average Value Added per Establishment
1933	72	12,098	168.0	11,564	160.6	213,685	2,968	29,728	413
1931	80	13,572	169.6	19,259	240.7	311,371	3,892	52,240	653
1929	105	24,960	237.7	41,959	399.6	771,425	7,347	161,132	1,535
1927	116	27,958	241.0	44,258	381.5	708,904	6,111	129,349	1,115
1925	122	29,188	239.2	45,312	371.4	765,286	6,273	147,869	1,212
1923	169	36,712	217.2	58,935	348.7	1,007,613	5,962	179,984	1,065
1921	134	18,698	139.5	29,370	219.2	419,771	3,133	58,722	438
1919	195	41,660	213.6	73,769	378.3	794,467	4,074	173,180	888
1914	160	29,356	183.5	22,781	142.4	317,654	1,985	53,074	332
1909	208	38,429	184.8	24,607	118.3	391,429	1,882	70,791	340
1904	190	35,078	184.6	18,935	99.7	231,823	1,220	52,881	278
1899	223	39,241	176.0	18,484	82.9	206,757	927	75,253	337

Source: Compiled by the National Recovery Administration from the Census of Manufacturers, Department of Commerce.

TABLE 34

AVERAGE SIZE OF STEEL WORKS AND ROLLING MILL ESTABLISHMENTS
1899-1933

Year	Number of Establishments	Number of Wage Earners Average for the year	Number of Wage Earners per establishment	(IN THOUSANDS OF DOLLARS) Wages	Average Wages per Establishment	Value of Product	Average Value of per Establishment	Value Added by Manufacturer	Average Value added per Establishment
1933	394	276,847	703	258,803	657	1,143,889	2,903	451,800	1,147
1931	446	264,634	593	338,387	759	1,402,843	3,145	570,959	1,280
1929	486	394,574	812	689,016	1,418	3,365,789	6,925	1,461,706	3,008
1927	486	361,312	743	601,275	1,237	2,779,840	5,720	1,090,185	2,243
1925	473	370,726	784	614,985	1,300	2,946,068	6,228	1,134,107	2,398
1923	489	388,201	794	637,825	1,304	3,154,325	6,451	1,109,926	2,270
1921	494	235,515	477	324,987	658	1,481,659	2,999	476,534	965
1919	500	375,088	750	637,637	1,275	2,828,902	5,658	1,148,327	2,294
1914	427	248,716	582	188,142	441	918,665	2,151	327,839	768
1909	446	240,076	538	163,201	366	985,723	2,210	328,222	736
1904	415	207,562	500	122,492	295	673,965	1,624	232,761	561
1899	445	183,249	412	102,336	230	597,212	1,342	206,316	464

SOURCE: Compiled by the NRA from the Census of Manufactures, Department of Commerce

TABLE 35

PRODUCTION OF ALL KINDS OF PIG IRON a/

By States	1933 Gross Tons (000)	1933 per Cent of Total	1932 Gross Tons (000)	1932 Per Cent Total	1929 Gross Tons (000)	1929 Per Cent Total	1924 g/ Gross Tons (000)	1924 g/ Per Cent Total	1894 g Gross Tons (000)	1894 g Per Cent Total	1874 g/ Net Tons (000)	1874 g/ Per Cent of Total
Mass., New York	666	5.1	624	7.3	2,805	6.7	2,014 h/	6.4	246 i/	3.7	464 n/	17.2
Pennsylvania									3,370	50.6	1,213	45.1
Eastern b/	474	3.6	361	4.2	2,296	5.5	2,169	6.9	f/		f/	
Western c/	3,255	25.0	1,742	20.4	11,720	28.1	8,900	28.3	f/		f/	
Va., Mo., W. Va., Ky., Tenn.	1,144	9.0	681	8.0	2,105	5.0	1,362	4.3	671 k/	10.1	257 o/	9.6
Alabama	900	6.9	653	7.6	2,705	6.5	2,774	8.8	592	8.9	33	1.2
Ohio									900	13.5	425	15.8
Mahoning Valley d/	1,398	10.7	694	8.1	4,147	9.9	2,941	9.4	f/		f/	
All Others e/	2,521	19.4	1,693	19.8	5,555	13.3	4,474	14.2	f/		f/	
Illinois	1,013	7.8	919	10.7	4,358	10.4	2,601	8.3	605	9.1	38	1.4
Indiana, Michigan	1,470	11.3	1,035	12.1	5,086	12.2	3,350	10.7	95 l/	1.4	150	5.6
Minn., Iowa, Mo., Colo., Utah	m161	1.2	148	1.7	981	2.3	821 i/	2.6	177 m/	1.9	130 p/	4.8
Total	13,001	100.0	8,550	100.0	41,757	100.0	31,406	100.0	6,657	100.0	2,689	100.0

a/ Source: Annual Statistical Report of the Iron & Steel Institute
b/ Philadelphia, Lehigh Valley, Schulkill Valley, Eastern Pennsylvania, Upper and Lower Susquehanna and Juniata Valley.
c/ Allegheny County, Shenango Valley, and Western Pennsylvania.
d/ Mahoning, Trumbull, and Northeastern part of Columbiana County.
e/ All other Counties in the State of Ohio.
f/ Not segregated.
g/ Ferro Alloys included.
h/ Mass. excluded; New Jersey included.
i/ Wis., Mont., Wash. included.
j/ Conn., New Jersey included.
k/ Georgia included.
l/ Indiana excluded.
m/ Wis., Texas, Ore. inclu ; Minn., Iowa, Utah excluded.
n/ Me., Vt., Conn., N.J. included
o/ Ga., N.C. included
p/ Wis., Ore., Texas included; Minn., Colo., Iowa excluded.

SOURCE: National Recovery Administration Report on the operation of the Multiple Basing Point System in the Iron and Steel Industry, November, 1934.

TABLE 36

INDEXES OF SEASONAL VARIATION FOR AGGREGATE MONTHLY PRODUCTION OF PIG IRON IN EACH OF THE SEVERAL DISTRICTS AND IN THE ENTIRE UNITED STATES

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
United States (Total)	99	93	105	102	104	99	98	100	98	103	99	100
Lehigh	102	93	104	103	104	98	95	95	96	105	104	101
Schuylkill	101	95	108	104	108	100	99	97	93	99	95	102
Susquehanna-Lebanon	97	87	96	101	108	103	102	104	99	106	100	98
New Jersey	94	85	96	103	108	101	103	107	100	104	100	99
Pittsburgh	98	92	106	101	102	99	100	101	99	106	97	98
New York	95	89	105	103	107	103	102	99	98	102	97	100
Western Pennsylvania	97	93	104	103	104	99	101	100	100	104	98	98
Shenango	99	94	103	102	101	97	99	99	102	108	98	99
Mahoning	98	94	106	100	104	99	100	102	99	104	97	98
Central and Northern Ohio	98	95	107	99	101	100	100	102	97	102	98	100
Southern Ohio	105	100	110	104	106	101	90	93	93	98	95	105
Wheeling	99	95	107	101	101	96	96	101	98	104	99	104
Maryland-Virginia	99	93	104	101	106	98	96	96	98	106	103	101
Tennessee	100	96	106	101	102	95	95	99	99	104	101	101
Alabama	103	93	103	98	99	94	96	99	99	106	104	106
Illinois-Indiana	95	89	101	101	106	103	104	103	100	102	98	98
Western*	106	100	112	108	105	99	96	91	90	96	94	104

* Michigan, Minnesota, Missouri, Wisconsin, Colorado, and Utah.

Source: H. B. Vanderblue and W. L. Crum, The Iron Industry in Prosperity and Depression

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TABLE 37

Steel Capacity, Production and Percent Operations

(Ingots and Steel for Castings)

Years	Capacity (G.T.) (a)	Production (Gross Tons)					Percent to Capacity
		Open Hearth	Bessemer	Crucible	Electric and all other	Total	
1919	54,482,740	26,948,694	7,271,562	63,572	387,404	34,671,232	63.6
1920	55,637,135	32,671,895	8,883,087	72,265	505,687	42,132,934	75.7
1921	57,376,810	15,589,802	4,015,938	7,613	170,444	19,783,797	34.5
1922	58,416,680	29,308,983	5,919,298	28,606	346,039	35,602,926	60.9
1923	58,644,655	35,899,657	8,484,088	44,079	515,872	44,943,696	76.6
1924	59,431,710	31,577,350	5,899,590	22,473	432,526	37,931,939	63.8
1925	61,136,805	38,034,488	6,723,962	19,562	615,512	45,393,524	74.2
1926	57,812,531	40,691,979	6,934,568	15,493	651,723	48,293,763	83.5
1927	60,032,247	38,068,335	6,191,727	9,036	666,087	44,935,185	74.9
1928	61,465,100	44,113,956	6,620,195	7,769	802,260	51,544,180	83.9
1929	63,784,389	48,352,888	7,122,509	6,645	951,431	56,433,473	88.5
1930	65,165,541	35,049,172	5,035,459	2,253	613,599	40,699,483	62.5
1931	68,980,181	22,509,566	3,023,446	1,547	410,942	25,945,501	37.6
1932	70,340,101	11,907,330	1,532,076	645	241,111	13,681,162	19.5
1933	70,191,431	20,381,672	2,428,791	681	421,203	23,232,347	33.1
1934 (*)	69,755,371	23,531,105	2,162,357	531	361,296	26,055,289	37.4

(a) Capacities as of December 31 of previous year
(*) The figures for 1934 include only that portion of the capacity and production of steel for castings used by foundries operated by companies producing steel ingots.

Source: American Statistical Report of the American Iron & Steel Institute for 1934.

TABLE 36

PRODUCTION OF HOT ROLLED IRON AND STEEL PRODUCTS
(Gross Tons)

Years	Plates	Sheets	Black plate	Strip	Hoops	Cotton ties and baling bands	BARS Merchant	BARS Concrete	BARS Structural Shapes	BARS Sheet piling
1919	3,891,321	2,099,840	1,381,653	Included in all other	233,336	352,172	4,391,624	419,021	2,614,036	17,811
1920	4,755,133	2,886,401	1,696,146	586,524	333,440	388,862	6,130,240	572,445	3,306,748	20,716
1921	1,760,324	1,511,817	988,433	238,005	166,961	111,426	1,565,754	227,228	1,272,624	18,165
1922	3,419,920	2,917,236	1,631,241	641,310	222,139	271,101	3,978,658	575,816	2,718,768	13,220
1923	4,168,745	3,503,071	1,825,901	865,506	220,835	348,480	5,552,796	680,867	3,405,197	36,716
1924	3,148,865	3,266,430	1,672,588	827,101	179,373	294,269	4,280,921	656,122	3,283,708	49,679
1925	3,753,451	4,096,832	1,957,376	1,248,635	205,049	356,165	5,659,315	819,587	3,604,130	57,264
1926	4,201,182	4,237,479	2,990,395	1,222,089	189,814	355,926	5,473,836	815,829	3,911,663	57,189
1927	3,720,810	3,979,037	1,927,887	1,318,419	176,300	323 129	4,870 247	816,013	3,742,445	74,793
1928	3,913,628	4,962,410	2,130,012	2,161,985	176,226	384,200	6,277,835	951,888	4,096,143	62,071
1929	5,022,141	5,254,998	2,159,173	2,502,793	204,246	384,706	6,459,896	963,600	4,778,020	102,494
1930	3,662,823	3,511,557	1,892,986	1,941,862	79,844	46,194	4,131,973	850,151	3,512,473	105,603
1931	1,966,212	2,461,494	1,611,675	1,620,971	56,003	57,112	2,440,363	643,633	2,062,858	73,670
1932	829,830	1,471,532	1,143,946	1,185,184	42,697	37.725	1,313,896	385,605	937,228	52,625
1933	1,160,382	3,092,410	1,963,858	1,330,106	48,344	51,081	2,284,776	370,273	1,109,437	44,933
1934	1,437,779	3,202,605	1,735,431	2,196,840	48,808	28,300	*2,802,427	487,004	1,425,040	107,843

* Includes alloy.

Years	Rails	Long splice bars and tie plate bars	Skelp	Blanks or pierced billets for seamless tubes	Wire rods	Rolled forging billets	Cross ties	Blooms, billets etc. for export	Rolled steel car wheels	All other	Total
1919	2,203,843	434,008	2,555,778	Included	2,538,476	359,582	16,645	92,143	Included	1,500,255	25,101,544
1920	2,604,116	575,830	3,220,289	in all	3,136,907	447,334	26,310	136,457	in all	1,523,965	32,347,863
1921	2,178,818	423,820	1,930,575	other	1,564,330	108,456	10,361	7,506	other	689,403	14,774,006
1922	2,171,776	605,688	2,872,215		2,654,741	326,303	14,811	11,299		1,405,762	26,452,004
1923	2,904,516	749,824	3,734,336		3,075,892	448,870	20,167	781		1,734,576	33,277,076
1924	2,433,332	629,786	3,170,543		2,522,545	346,915	14,968	437		1,308,853	28,086,435
1925	2,785,257	822,537	3,229,768		2,844,656	344,803	13,826	187		1,558,122	33,386,960
1926	3,217,643	953,563	3,764,550	883,598	2,722,032	362,750	13,278	430		1,022,640	35,495,892
1927	2,806,486	864,992	3,418,852	889,336	2,770,271	285,527	13,826	549		880,112	32,879,031
1928	2,647,493	797,650	3,368,973	1,190,658	3,080,816	554,475	12,266	11,139		883,045	37,662,916
1929	2,722,138	924,803	3,517,238	1,382,171	3,134,409	527.336	13,718	40,015		975,521	41,069,416
1930	1,873,233	606,390	2,682,046	1,248,156	2,348,600	304,090	17,005	9,485		688,536	29,513,007
1931	1,157,751	389,579	1,499,280	732,569	1,844,620	114,664	18,278	1,960	86,951	336 051	19,175,894
1932	402,566	147,915	607,599	370,270	1,186,181	76,360	4,516	1,000	53,080	203,333	10,451,088
1933	416,296	196,535	994,515	588,998	2,024,095	120,979	8,233	14,646	71,207	343,962	16,735,086
1934	1,010 ,224	348,292	1,120,217	824,542	1,723,765	212,339	10,891	23,363	76,473	147,323	18,969,506

Source: Annual Statistical Report of the American Iron and Steel Institute for 1934.

TABLE 39

LOCATION OF BASING POINTS FOR IRON AND STEEL PRODUCTS

BASE / PRODUCTS	Axles-Rolled or Forged	Bale Ties-Single Loop	Bars-Alloy Steel, Hot Rolled	Bars-Cold Finished, Carbon & Alloy	Bars-Concrete Reinforcing, Straight Lengths	Bars-Ingots, Blooms & Billets-Iron	Bars-Merchant Steel	Bars-Tool Steel	Ferro Manganese & Spiegel	Girder Rails & Splice Bars	Ingots, Blooms & Slab s-Alloy	Ingots, Blooms, Billets & Slabs-Carbon	Light Rails - 60 lbs. or less	Mechanical Tubing	Pig Iron	Pig Iron-Low Phosphorous	Pipe-Standard & Tubular Products	Plates	Posts-Fence & Sign	Railroad Tie Plates	Railroad Track Spikes	Sheet Bars	Sheets	Skelp	Steel Sheet Piling	Strip Steel-Cold Rolled	Strip Steel-Hot Rolled	Structural Shapes	Tin Plate & Term Plate, Tin Mill Black Plate	Tubes-Boiler	Tubes-Bronze	Wheel-Car Rolled Steel	Wire Rails & Staples, Bark Wire, etc.	Wire-Drawn	Wire Rope	Wire Rods	Wire-Springs	Wire - Telephone
Pittsburgh	x	x	x	x	x	x	x	x			x	x	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Chicago	x	x	x		x	x	x		x		x	x	x		x			x	x	x	x	x		x		x	x	x			x	x	x	x	x	x	
Birmingham	x	x			x	x	x				x	x	x		x			x	x	x	x	x	x				x	x			x	x	x	x	x		
Cleveland, O.		x		x	x		x					x			x				x		x	x						x			x		x	x	x	x	x
Duluth, Minn.		x					x				x				x				x														x	x			
Gulf Ports		x			x		x			x								x	x					x			x	x					x	x			
Pacific Coast Ports					x		x											x	x	x	x			x			x	x					x	x	x		
Buffalo			x	x	x		x				x	x			x					x	x	x		x			x			x							
Canton, O.			x								x											x															
Massilon, O.			x								x																										
Bethlehem, Pa.			x						x		x				x													x									
Gary, Ind.				x	x		x					x					x	x					x						x								
Youngstown, O.					x							x			x						x	x		x										x			
Troy, N. Y.						x																															
Jersey City, N.J.						x															x																
Dover, Va.						x																															
Rockaway, N.J.						x																															
Philadelphia, Pa.						x				x											x																
Columbia, Pa.						x															x																
Lebanon, Pa.						x																															
Reading, Pa.						x																															
Danville, Pa.						x																															
Berwick, Pa.						x																															
Burnham, Pa.						x																															
Creighton, Pa.						x																															
Richmond, Va.						x															x																
Cuyahoga Falls, O.						x																															
Louisville, Ky.						x																															
Terre Haute, Ind.						x																															
Moline, Ill.							x																														
Syracuse, N.Y.								x																													
New York, N.Y.									x																												
Baltimore, Md.									x																												
Palmerton, Pa.									x								x																				
Lorain, O.										x																											
Steelton, Pa.										x					x	x				x																	
Shelby, O.														x	x																						
Detroit, Mich.														x	x																						
Milwaukee, Wis.														x																							
Neville Island, Pa.															x																						
Sharpsville, Pa.															x																						
Erie, Pa.															x																						
Swedeland, Pa.															x																						
Birdsboro, Pa.															x	x																					
Hamilton, O.															x																						
Jackson, O.															x																						
Toledo, O.															x																						
Granite City, Ill.															x																						
Standish, N. Y.																x																					
Provo, Utah															x																						
Everett, Mass.															x																						
Sparrows Point, Md.															x			x				x			x												x
Johnson City, Tenn.																x																					
Coatesville, Pa.																	x								x												
St. Louis, Mo.																				x	x																
Kansas City, Mo.																				x	x																
Minnequa, Col.																				x	x																
Weirton, W. Va.																				x																	
Portsmouth, O.																				x	x																
Worcester, Mass																				x	x					x									x	x	x
Anderson, Ind.																																x			x		
Gleasport, Pa.																																					
Waukegan, Ill.																																					x
Muncie, Ind.																																					x
Trenton, N. J.																																					x
TOTAL 248	3	6	6	5	9	18	10	3	6	2	6	8	3	5	21	4	3	8	7	12	16	7	4	6	5	3	3	7	3	1	5	2	8	10	2	9	5	7

Source: Iron and Steel Industry Code, Amendment No. 1.

TABLE 40

DISTRIBUTION OF CAPACITY WITH RESPECT TO BASING POINTS

PRODUCTS	At Basing Point	%	Not at But within 50 Miles of Basing Pt.	%	Not Within 50 Miles of Basing Pt.	%	Total
PIG IRON	12,834,700	40.85	14,949,255	47.58	3,637,600	11.57	31,421,555
BLOOMS BILLETS & SLABS	12,080,200	25.2	22,964,020	47.9	12,874,300	26.9	47,918,520
MFR. & CONC.BARS	4,092,200	29.1	5,776,400	41.0	4,209,325	29.9	14,077,925
SHEET & TIN PLATE BARS	3,119,600	33.5	5,113,300	55.0	1,067,020	11.5	9,299,920
STRUCTURAL SHAPES	1,407,500	26.1	3,534,800	65.6	453,000	8.3	5,395,300
PLATES	1,521,350	24.7	3,080,300	49.9	1,566,200	25.4	6,167,850
SHEETS	512,100	6.3	3,075,200	37.6	4,581,500	56.1	8,168,800
HR STRIP	586,000	11.8	1,707,500	34.3	2,688,000	53.9	4,981,500
CR STRIP	225,900	21.8	382,500	36.9	427,200	41.3	1,035,600
TIN M. BLACK	276,500	10.3	1,565,400	58.1	849,900	31.6	2,691,800
TIN PLATE (1)	306,380	10.6	1,797,550	61.9	799,450	27.5	2,903,380
SKELP	1,133,000	27.1	2,444,200	58.7	594,000	14.2	4,171,200
PIPE, etc.	1,327,600	15.5	3,742,600	43.7	3,488,200	40.8	8,558,400
WIRE RODS	780,000	18.1	2,255,000	52.4	1,269,000	29.5	4,304,000
WIRE NAILS & STAPLES: BARBED WIRE & FENCING	306,650	9.5	1,817,700	56.6	1,087,850	33.9	3,212,200
WIRE DRAWN	762,500	19.1	1,606,400	40.2	1,631,900	40.7	4,000,800
	41,272,180		75,812,125		41,224,445		158,308,750
	26.1%		47.9%		26.0%		100%
	74.0%						

(1) Includes small quantity of terne plate

Source: Report of the NRA on the Operation of the Basing Point System in the Iron and Steel Industry, November 30, 1934.

TABLE 41

Interstate Distribution of Iron and Steel Products

for all mills within 50 miles of Pittsburgh

(3 months ending June 30, 1934)

- - - - - -

	(thousands) (of) (net tons)	Percentage
Pennsylvania	517	34.0
Ohio	228	15.0
New York	161	10.7
Michigan	138	9.2
South Central States (1)	137	9.1
Illinois	67	4.5
New England States (2)	51	3.4
Pacific States (3)	43	2.9
Maryland	41	2.7
North Central States (4)	41	2.7
Virginia	24	1.6
Indiana	23	1.5
Kentucky	15	1.0
South Eastern States (5)	11	.7
Mountain States (6)	8	.5
Wisconsin	4	.3
Delaware and D. C.	3	.2
Total	1,522	100.0

(1) Okla., Ark., La., Tex.
(2) Maine, N. H., Vt., Mass., R.I., Conn.
(3) Calif., Ore., Wash.
(4) Minn., N. Da., S. Da., Iowa, Neb., Kan., Mo.
(5) N.C., Ga., Fla., Ala., Miss.
(6) Mont., Ida., Colo., Utah, N. Mex.

SOURCE: NRA Division of Review, Evidence Study Series No. 20
The Iron and Steel Industry

Prepared by A. G. White

9864 Percentages compiled by Trade Practice Section.

TABLE 42

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF
IRON AND STEEL PRODUCTS

PIG IRON
Basic
(Dollars, per gross ton)

Date	Valley	Pittsburgh	Buffalo	Philadelphia del'd	Birmingham
1/ 5/26	20.00	(*)	20.50	23.00	22.00
3/ 2	"	"	"	23.50	"
3/ 9	"	"	"	22.25	"
3/23	"	"	"	21.75	"
4/ 6	19.00	"	"	"	"
4/13	18.50	"	"	"	"
4/20	"	"	20.00	"	"
4/25	18.00	"	"	"	"
6/ 1	"	"	19.00	"	"
6/ 8	"	"	"	"	21.00
6/15	"	"	"	21.25	"
7/ 6	"	"	"	21.00	"
7/13	17.50	"	"	"	"
9/ 7	"	"	"	20.75	"
10/ 5	"	"	"	"	20.00
10/12	"	"	"	20.50	"
10/26	"	"	"	21.00	"
11/ 2	18.50	"	"	21.50	"
11/ 9	"	"	"	23.00	"
11/30	"	"	"	22.50	"

(Continued on the following page)

(Continued from the preceding page)

Date	Valley	Pittsburgh	Buffalo	Philadelphia del'd	Birmingham
12/ 7/26	18.50	(*)	19.00	22.00	20.00
1/ 4/27	18.00	"	"	21.50	18.00
1/25	"	"	18.00	"	"
2/ 1	"	"	"	21.25	"
2/ 8	"	"	17.50	21.00	"
3/ 1	"	"	17.00	"	"
3/15	18.50	"	"	20.75	"
3/29	19.00	"	"	"	"
4/26	"	"	17.50	"	"
5/ 3	18.50	"	"	"	"
5/17	18.00	"	"	"	"
6/28	17.50	"	17.00	"	"
7/12	"	"	"	"	17.25
7/26	"	"	16.75	"	"
8/ 9	17.25	"	16.25	20.00	"
8/23	"	"	16.50	"	"
9/13	17.00	"	"	"	"
10/11	"	"	17.00	"	"
11/ 1	"	"	"	"	16.00
11/15	"	"	"	19.50	"
12/ 6	"	"	"	19.00	"
12/20	"	"	"	19.50	"
1/24/28	"	"	"	"	15.00
2/ 7	"	"	16.50	"	"
2/27	"	"	"	"	16.00
5/ 1	16.50	"	"	"	"
5/ 8	"	"	"	19.00	"
5/22	16.00	"	"	"	"
6/ 5	15.35	"	"	"	"
6/12	"	"	"	"	15.00

(Continued on the following page)

(Continued from the preceding page)

Date	Valley	Pittsburgh	Buffalo	Philadelphia dell'd	Birmingham
6/26/28	15.75	(*)	16.50	19.00	15.00
7/ 3	16.00	"	"	"	"
7/31	"	"	"	18.75	"
8/28	"	"	"	"	16.25
9/11	16.25	"	"	"	"
9/18	"	"	17.00	19.00	"
10/ 2	17.00	"	"	"	"
10/16	"	"	"	19.75	"
10/30	17.50	"	17.50	"	"
11/20	"	"	"	"	16.50
12/ 4	"	"	"	20.25	"
12/24	"	"	"	19.75	"
2/19/29	"	"	"	20.25	"
3/19	"	"	"	"	15.50
4/ 9	18.00	"	"	"	"
4/30	"	"	"	"	15.00
5/ 7	18.50	"	"	"	"
5/21	"	19.00	"	"	"
6/25	"	"	18.50	"	"
7/ 9	"	"	"	"	14.50
7/30	"	"	"	20.00	"
8/ 6	"	"	"	19.75	"
10/22	"	"	17.00	"	"
12/10	"	"	"	19.50	"
2/25/30	"	"	"	19.25	15.00
3/11	"	"	"	19.00	"
3/18	"	"	"	"	14.00
4/ 1	"	"	17.50	"	"
4/22	"	"	"	18.75	"
7/ 8	18.00	18.50	"	"	"
7/15	"	"	"	18.25	"

(Continued on the following page)

(Continued from the preceding page)

Date	Valley	Pittsburgh	Buffalo	Philadelphia del'd	Birmingham
9/23/30	17.00	17.50	17.50	18.25	14.00
9/30	"	"	"	17.75	"
1/13/31	"	"	"	17.25	"
1/27	"	"	"	"	13.00
2/10	"	"	"	"	12.50
2/17	16.50	17.00	"	"	13.00
3/10	"	"	"	"	12.50
3/17	"	"	"	"	12.00
4/21	"	"	"	17.00	"
5/12	"	"	17.00	"	"
5/26	15.50	16.00	"	"	"
7/ 7	"	"	"	16.75	"
10/20	15.00	15.50	"	"	"
11/10	"	"	"	16.25	"
12/29	"	"	15.50	"	"
1/ 5/32	"	15.00	"	"	"
1/19	"	"	"	"	11.00
2/ 2	14.50	"	"	"	"
3/ 1	"	"	"	16.00	"
5/17	14.00	14.50	"	"	"
6/28	"	14.00	"	"	"
7/ 5	13.50	"	"	14.50	"
8/16	"	"	"	14.00	"
8/30	"	"	"	13.50	"
4/ 4/33	"	"	"	14.09	<12.00
4/25	"	"	"	"	12.00
5/ 2	14.00	14.50	"	"	"
5/ 9	"	"	"	15.09	"
5/23	"	"	"	16.09	"
5/30	15.00	15.50	14.00	"	"
7/18	16.00	16.50	15.00	17.09	13.00
8/ 1	"	"	"	17.84	"
8/22	"	17.50	"	"	"

(Continued on the following page)

(Continued from the preceding page)

Date	Youngstown	Neville Island	Buffalo	Bethlehem, Birdsboro, Swedeland, Sparrows Pt.	Birmingham	Chicago, Detroit, Hamilton	Granite City	Toledo, Erie	Cleveland	Everett	Jackson, Ohio	Provo, Utah	Sharpesville
8/29/33	17.00	17.50	16.50	17.00	(*)	17.00	(*)	(*)	(*)	(*)	(*)	(*)	(*)
9/ 5	"	"	"	"	13.50	"		17.00	"	"	"	"	"
9/12	"	"	"	"	12.50	"	17.00	"	17.00	17.50	"	"	17.00
12/ 5	"	"	"	18.00	"	"	"	"	"	18.00	"	"	"
2/10/34	"	17.00	"	"	"	"	"	"	"	"	"	"	"
4/17	"	"	"	"	"	"	"	18.00	18.00	"	"	"	18.00
4/24	18.00	"	17.50	19.00	"	18.00	18.00	"	"	"	19.75	"	"
5/ 1	"	18.00	"	"	13.50	"	"	"	"	19.00	"	"	"
5/ 8	"	"	"	"	"	"	"	"	"	"	"	17.00	"
5/29	"	"	"	---*/	"	"	"	"	"	"	"	"	"
11/ 5/35	19.00	19.00	18.50	20.00	"	19.00	19.00	19.00	19.00	20.00	20.75	"	19.00
11/12	"	"	"	"	14.50	"	"	"	"	"	"	"	"
1/ 7/36	"	"	"	"	"	"	"	"	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No Quotation is shown.
*/: Steelton is added.

TABLE 43

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS
OF IRON AND STEEL PRODUCTS

BESSEMER - PIG IRON

(Dollars per gross ton)

Date	Valley	Pittsburgh	Date	Valley	Pittsburgh
1-5-26	21.00	(*)	10-9	17.50	(*)
4-6-26	20.00	"	10-30	18.00	"
4-20	19.50	"	11-13	18.25	"
5-25	19.00	"	3-19-29	18.50	"
7-6	18.50	"	5-7	19.00	"
8-3	18.00	"	7-8-30	18.50	"
9-21	18.50	"	9-23	18.00	"
10-5	19.00	"	10-21	17.50	18.00
10-26	19.50	"	2-17-31	17.00	17.50
11-9	20.00	"	10-20	16.50	"
12-28	19.50	"	10-27	"	17.00
2-1-27	19.00	"	12-15	16.00	16.50
8	19.50	"	2-2-32	15.50	16.00
5-17	19.00	"	5-17	15.00	15.50
6-28	18.50	"	6-28	"	15.00
8-30	18.00	"	4-11-33	"	15.50
12-6	17.75	"	5-30	16.00	16.50
20	17.50	"	7-18	17.00	17.50
5-22-28	17.00	"	8-29	18.00	18.50

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Date	Youngs-town	Neville Island	Sharpes-ville	Buffalo Erie	Cleve-land	Detroit Hamilton Chicago	Bethlehem Birdsboro Swedeland	Everett	B'ham	Duluth	Toledo	Jackson
9-5-33	18.00#	18.50##	(*)	(*)	(*)	18.00	18.50	(*)	(*)	18.50	18.00	(*)
9-12	"	"	18.00	18.50	18.00	"	"	19.00	"	"	"	"
12-5	"	"	"	"	"	"	19.50	19.50	"	"	"	"
12-26	"	"	"	"	"	"	"	"	"	"	19.00	"
3-22-34	"	"	"	"	"	"	"	"	18.00	"	"	"
4-17-34	"	"	19.00	19.50	"	"	"	"	"	19.50	"	"
4-23	19.00	"	"	"	19.00	19.00	20.50	"	19.00	"	"	"
5-1	"	19.00	"	"	"	"	"	20.50	"	"	"	"
2-26-35	"	"	"	"	"	"	"	"	"	"	"	20.75
11-5	20.00	20.00	20.00	20.50	20.00	20.00	21.50	21.50	"	20.50	20.00	(*)
11-12	"	"	"	"	"	"	"	"	20.00	"	"	"
1-7-36	"	"	"	"	"	"	"	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation shown.
#: Basing point changed from Valley to Youngstown.
##: Basing point changed from Pittsburgh to Neville Island.

TABLE 44

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF IRON AND STEEL PRODUCTS

PIG IRON

Malleable

(Dollars, per gross ton)

Date	Valley	Chicago	Buffalo	Cleveland	Philadelphia	Date	Valley	Chicago	Buffalo	Cleveland	Philadelphia
1/ 5/26	20.50	23.00	21.00	22.26	24.00	9/16/26	19.00	21.00	20.00	21.00	23.50
2/23	"	"	"	"	23.50	9/30	"	"	"	20.50	"
3/ 2	"	"	"	"	23.00	12/28	18.50	"	"	19.50	"
3/ 9	"	"	"	21.76	22.50	1/ 4/27	"	"	"	19.00	23.00
3/16	"	"	"	21.50	23.00	1/18	"	"	"	19.50	"
4/ 6	19.00	22.00	"	21.00	"	1/25	"	20.50	18.00	"	"
4/13	"	"	"	20.50	22.50	2/ 1	"	"	17.50	"	22.50
5/ 4	"	"	"	20.00	"	2/ 8	"	"	"	19.00	"
5/11	"	21.50	"	"	"	2/15	"	20.00	"	"	"
5/25	18.50	"	20.00	"	"	2/22	"	"	17.00	"	"
6/ 8	18.00	21.00	"	19.75	"	3/ 1	"	"	"	19.50	"
6/15	"	"	"	19.50	"	3/ 8	"	"	"	20.00	"
6/29	17.75	"	"	"	22.00	3/29	"	"	17.25	"	"
8/ 3	17.50	"	"	"	"	4/ 5	"	"	17.50	"	"
9/14	"	"	"	19.00	"	4/26	"	"	"	19.50	"
9/21	"	"	"	19.50	"	6/14	18.00	"	"	19.00	"
9/28	18.00	"	"	"	"	6/28	"	"	17.00	"	22.00
10/ 5	18.50	"	"	"	"	7/19	"	"	"	"	21.50
10/12	"	"	"	20.00	"	7/26	"	"	16.75	"	"
11/ 2	19.00	"	"	"	"	8/ 2	"	19.50	"	"	"
11/ 9	"	"	"	20.50	23.50	8/ 9	17.50	"	16.25	"	"

(Continued on the following page)

(Continued from the preceding page)

Date	Valley	Chicago	Buffalo	Cleveland	Philadelphia	Granite City	Pittsburgh
8/24/27	17.50	19.50	16.56	19.00	21.50	(*)	(*)
10/11	"	"	17.50	"	"	"	"
10/18	"	18.50	"	"	"	"	"
10/25	"	"	"	18.50	21.00	"	"
1/10/28	17.25	"	"	"	"	"	"
1/31	"	"	17.00	"	"	"	"
4/24	"	"	17.50	"	"	"	"
5/15	"	18.00	"	"	"	"	"
6/ 5	17.00	"	"	"	"	"	"
6/19	"	"	"	18.60	"	"	"
7/10	"	17.50	"	"	"	"	"
8/28	"	18.00	"	"	"	"	"
9/11	17.25	"	"	18.50	"	"	"
9/18	"	18.50	"	"	"	"	"
10/ 9	17.50	"	"	"	"	"	"
10/23	"	19.00	"	19.00	"	"	"
10/30	18.00	19.50	18.00	"	"	"	"
11/ 6	"	20.00	"	19.50	21.25	"	"
11/13	18.25	"	18.50	"	"	20.50	"
12/25	18.00	"	"	"	"	"	"
2/12/29	"	"	19.00	"	"	"	"
3/19	18.50	"	"	"	"	"	"
5/ 7	19.00	"	"	"	"	"	"
5/21	"	"	"	"	"	"	19.50
6/25	"	"	20.00	"	"	"	"
9/ 3	"	"	"	"	"	20.00	"
1/21/30	"	"	19.00	"	"	"	"
3/ 4	"	19.50	"	"	"	"	"
4/22	"	"	"	"	21.00	"	"
4/29	"	19.00	"	"	"	"	"

(Continued on the following page)

(Continued from the preceding page)

Date	Valley	Chicago	Buffalo	Cleveland	Philadelphia	Granite City	Pittsburgh
6/ 6/30	19.00	19.00	19.00	18.50	21.00	19.00	19.50
6/ 3	"	18.50	"	"	"	"	"
6/24	"	18.00	"	"	"	18.50	"
7/ 1	"	"	"	18.00	21.25	"	"
7/ 8	18.50	"	"	"	"	18.00	19.00
7/29	"	17.50	"	"	"	"	"
9/ 9	"	"	"	17.50	"	"	"
9/23	18.00	"	"	"	"	17.50	18.50
10/14	"	"	18.00	"	"	"	"
10/21	17.50	"	"	"	21.00	"	18.00
12/ 2	"	"	"	"	20.00	"	"
12/16	"	"	"	"	19.00	"	"
2/17/31	17.00	"	"	"	"	"	17.50
5/12	"	"	17.50	"	"	"	"
19/28	"	"	"	17.00	"	"	"
10/ 6	"	17.00	"	"	"	"	"
10/27	16.50	"	"	"	"	"	17.00
11/17	"	"	"	"	18.50	"	"
12/15	16.00	16.50	"	16.00	"	"	16.50
12/29	"	"	16.50	"	18.00	"	"
2/ 2/32	15.50	"	"	"	"	"	16.00
3/15	"	"	"	15.50	"	"	"
4/ 5	"	16.00	"	"	"	"	"
5/10	15.00	"	"	"	"	"	15.50
6/28	"	"	"	"	"	"	15.00
7/ 5	14.50	15.50	"	"	17.50	"	"
8/16	"	"	"	"	16.50	"	"
9/ 6	"	"	"	15.00	"	"	"
11/ 8	"	"	"	"	14.74	"	"
4/ 4/33	"	"	"	"	15.34	"	"

(Continued on the following page)

(Continued from the preceding page)

Date	Valley	Chicago	Buffalo	Cleveland	Philadelphia	Granite City	Pittsburgh
4/25/33	14.50	15.50	16.50	15.00	15.34	16.50	15.00
5/ 2	"	"	"	"	"	16.00	"
5/ 9	"	16.00	"	"	15.84	"	"
5/16	"	"	"	15.50	"	"	"
5/23	"	"	"	"	16.84	16.50	"
5/30	15.50	"	"	"	"	"	16.00
7/11	"	17.00	"	"	"	"	"
7/18	16.50	"	17.50	16.50	17.84	17.50	17.00
8/29	17.50	17.50	18.00	17.50	18.84	"	18.00

Date	Youngstown	Chicago, Detroit, Hamilton	Buffalo	Cleveland	Bethlehem, Birdsboro, Swedeland	Granite City	Neville Island	Sharpesville	Toledo	Erie	Birmingham	Jackson, Ohio	Duluth	Everett, Mass.
9/5/33	17.50	17.50	18.00	17.50	18.00	18.00	18.00	(*)	17.50	18.00	(*)	(*)	18.00	(*)
9/12	"	"	17.50	"	"	"	"	17.50	"	"	"	"	"	18.50
10/17	"	"	18.00	"	"	"	"	"	"	"	"	"	"	"
12/ 5/33	"	"	"	"	19.00	"	"	"	"	"	"	"	"	19.00
4/17/34	"	"	"	18.50	"	"	"	18.50	18.50	19.00	"	20.25	19.00	"
4/24	18.50	18.50	19.00	"	20.00	18.50	"	"	"	"	"	"	"	"
5/ 1	"	"	"	"	"	"	18.50	"	"	"	"	"	"	20.00
5/ 7	"	"	"	"	"	"	"	"	"	"	14.50	"	"	"
11/ 5/35	19.50	19.50	20.00	19.50	21.00	19.50	19.50	19.50	19.50	20.00	"	21.25	20.00	21.00
11/12	"	"	"	"	"	"	"	"	"	"	15.50	"	"	"
1/ 7/36	"	"	"	"	"	"	"	"	"	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation shown.

TABLE 45

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS
OF IRON AND STEEL PRODUCTS

PIG IRON
No. 2 Foundry
(Dollars per gross ton)

Date	Valley	Buffalo	Cleveland	Chicago	Granite City	Birmingham	Philadelphia del'd
1/5/26	20.50	21.00	22.26	23.00	24.31	22.00	23.76
2/23/26	"	"	"	"	"	"	23.26
3/ 9/	"	"	21.76	"	"	"	22.76
3/16	"	"	21.50	"	"	"	"
4/ 6	19.00	"	21.00	22.00	"	"	"
4/13	"	"	20.50	"	"	"	"
4/20	"	"	"	"	23.31	"	"
5/ 4	"	"	20.00	"	"	"	"
5/11	"	"	"	21.50	"	"	22.26
5/25	18.50	20.00	"	"	"	"	"
6/ 1	18.00	"	"	"	"	"	"
6/ 8	"	"	19.75	21.00	22.81	21.00	"
6/15	"	"	19.50	"	"	"	"
6/22	"	19.00	"	"	"	"	"
6/29	17.75	"	"	"	"	"	21.76
7/27	17.50	"	"	"	"	"	"
9/14	"	"	19.00	"	"	"	"
9/21	"	"	19.50	"	"	"	"
9/29	18.00	"	"	"	"	"	"
10/ 5	18.50	"	"	"	"	20.00	"

(Continued on the following page)

(Continued from the preceding page)

Date	Valley	Buffalo	Cleveland	Chicago	Granite City	Birmingham	Philadelphia del'd
10/12/26	18.50	19.00	20.00	21.00	22.81	20.00	21.76
11/ 2	19.00	"	"	"	"	"	22.26
11/ 9	"	"	20.50	"	"	"	23.26
11/16	"	"	21.00	"	22.31	"	"
11/30	"	"	20.50	"	"	"	"
12/14	"	"	"	"	"	"	22.76
12/21	18.50	"	19.50	"	"	"	"
1/ 4/27	"	"	19.00	"	"	18.00	22.26
1/18	"	18.00	19.50	"	21.81	"	"
1/25	"	"	"	20.50	"	"	"
2/ 1	"	"	17.50	"	"	"	21.76
2/ 8	"	"	19.00	20.00	"	"	"
2/15	"	"	"	20.00	"	"	"
2/22	"	17.00	"	"	"	"	"
3/ 1	"	"	19.50	"	"	"	"
3/ 8	"	"	20.00	"	"	"	"
3/15	"	"	"	"	20.50	"	"
3/29	"	17.25	"	"	"	"	"
4/ 5	"	17.50	"	"	"	"	"
4/26	"	"	19.50	"	"	"	"
6/14	18.00	"	19.00	"	"	"	"
6/21	"	"	"	20.00	"	"	"
6/28	"	17.00	"	"	"	"	21.26
7/12	"	"	"	"	"	17.25	"
7/19	"	"	"	"	"	"	20.76
7/26	"	16.75	"	"	"	"	"
8/ 2	"	"	19.50	19.50	"	"	"
8/ 9	17.50	16.25	"	"	"	"	"
8/16	"	16.00	"	"	"	"	"
9/ 6	"	"	"	"	"	"	20.26

(Continued on the following page)

(Continued from the preceding page)

Date	Valley	Buffalo	Cleveland	Chicago	Granite City	Birmingham	Philadelphia del'd	Pittsburgh
9/20/27	17.50	16.50	19.00	19.50	19.50	17.25	20.26	(*)
10/11	"	17.00	"	"	"	"	"	"
10/18	"	"	"	18.50	"	"	19.76	"
10/25	"	"	18.50	"	"	"	"	"
11/ 2	"	"	"	"	"	16.00	"	"
11/30	17.25	"	"	"	"	"	"	"
1/17/28	"	"	"	"	"	"	20.26	"
2/14	"	"	"	"	"	"	20.76	"
5/ 1	"	"	"	"	19.00	"	"	"
5/ 8	"	"	"	"	"	15.50	"	"
5/15	"	"	"	17.00	"	"	"	"
5/22	"	"	"	18.00	"	"	"	"
5/27	17.00	"	"	"	"	16.00	"	"
6/ 5	16.75	"	"	"	"	"	"	"
6/19	"	"	18.00	"	"	"	"	"
6/26	"	"	"	"	"	15.50	"	"
7/10	"	"	"	17.50	"	"	20.26	"
7/24	16.50	"	"	"	"	"	"	"
7/31	"	"	"	"	18.50	"	"	"
8/28	"	"	"	18.00	19.00	16.25	"	"
9/11	"	"	18.50	"	"	"	"	"
9/18	17.00	"	"	18.50	19.50	"	20.76	"
9/23	"	"	19.00	19.00	"	"	"	"
10/29	17.50	"	"	19.50	"	"	"	"
11/ 6	"	"	19.50	20.00	20.00	"	"	"
11/13	"	18.00	"	"	"	"	21.26	"
11/20	"	"	"	"	"	16.50	"	"
11/27	18.00	"	"	"	"	"	"	"

(Continued on the following page)

(Continued from the preceding page)

Date	Valley	Buffalo	Cleveland	Chicago	Granite City	Birmingham	Philadelphia del'd	Pittsburgh
12/18/28	17.50	18.00	19.50	20.00	20.00	16.50	21.26	(*)
2/12/29	"	18.50	"	"	"	"	"	"
3/19	18.00	"	"	"	"	15.50	"	"
3/26	"	"	"	"	"	"	21.76	"
4/30	"	"	"	"	"	15.00	"	"
5/7	18.50	"	"	"	"	"	"	"
5/21	"	"	"	"	"	"	"	19.00
6/25	"	19.50	"	"	"	"	"	"
7/ 9	"	"	"	"	"	14.50	"	"
8/27	"	"	"	"	19.50	"	"	"
12/17	"	"	"	"	"	"	20.76	"
1/ 1/30	"	18.50	"	"	"	"	"	"
2/25	"	"	"	"	"	15.00	"	"
3/ 4	"	"	"	19.50	"	"	20.26	"
3/11	"	"	"	"	"	14.00	"	"
4/29	"	"	"	19.00	19.00	"	"	"
5/ 6	"	"	18.50	"	"	"	"	"
5/13	"	"	"	"	"	"	19.76	"
6/ 3	"	"	"	18.50	"	"	"	"
6/23	"	"	"	18.00	18.50	"	"	"
7/ 1	"	"	18.00	"	"	"	"	"
7/ 8	18.00	"	"	"	18.00	"	"	18.50
7/29	"	"	"	17.50	"	"	"	"
9/ 9	"	"	17.50	"	"	"	"	"
9/23	17.50	"	"	"	17.50	"	"	18.00

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(Continued from the preceding page)

Date	Valley	Buffalo	Cleveland	Chicago	Granite City	Birmingham	Philadelphia del'd	Pittsburgh
9/30/30	17.50	18.50	17.50	17.50	17.50	14.00	13.76	18.00
10/14	17.00	17.50	"	"	"	"	"	17.50
11/18	"	"	"	"	"	"	18.26	"
12/ 2	"	"	"	"	"	"	17.76	"
1/27/31	"	"	"	"	"	13.00	"	"
2/10	"	"	"	"	"	12.50	"	"
2/17	16.50	"	"	"	"	13.00	"	17.00
3/10	"	"	"	"	"	12.50	"	"
3/17	"	"	17.00	"	"	12.00	"	"
3/31	17.00	"	"	"	"	"	"	"
6/30	"	"	"	"	"	"	16.76	"
9/ 8	"	"	"	"	"	"	16.26	"
10/ 6	"	"	"	17.00	"	"	"	"
10/20	16.50	"	"	"	"	"	"	"
10/27	16.00	"	"	"	"	"	15.76	"
11/10	"	"	"	"	"	"	15.51	"
12/15	15.50	"	16.00	16.50	"	"	"	16.50
12/29	"	15.00	"	"	"	"	"	"
1/ 5/32	"	"	"	"	"	"	15.64	"
1/19	"	"	"	"	"	11.00	"	"
2/ 2	"	"	"	"	"	"	"	16.00
2/ 9	15.00	"	"	"	"	"	"	"
3/15	"	"	15.50	"	"	"	"	"
3/22	"	"	"	"	"	"	15.59	"
4/ 5	"	"	"	16.00	"	"	"	"
5/ 3	"	"	"	"	"	"	14.84	"
5/17	14.50	"	"	"	"	"	"	15.50
6/28	"	"	"	"	"	"	"	15.00
7/ 5	"	"	"	15.50	"	"	14.34	"

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(Continued from the preceding page)

Date	Valley	Buffalo	Cleveland	Chicago	Granite City	Birmingham	Philadelphia del'd	Pittsburgh
8/16/32	14.50	15.00	15.50	15.50	17.50	11.00	13.84	15.00
9/ 6	"	"	15.00	"	"	"	"	"
10/25	"	"	"	"	"	"	13.59	"
12/ 6	"	"	"	"	"	"	13.34	"
4/11/33	"	"	"	"	"	"	14.34	"
5/ 2/	"	"	"	"	15.50	12.00	"	"
5/23	"	"	"	16.00	"	"	15.34	"
5/30	"	"	"	"	16.00	"	16.34	"
6/ 6	15.50	"	"	"	"	"	"	16.00
7/ 4	"	"	"	"	"	"	18.34	"
7/11	"	"	"	17.00	"	"	"	"
7/18	"	17.00	16.50	"	17.00	13.00	"	"

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(Continued from the preceding page)

Date	Jackson	Buffalo	Cleveland	Chicago, Detroit	Granite City	Birmingham	Bethlehem, Swedeland, Sparrows Point and Birdsboro	Provo, Utah
9/ 5/33		17.50	17.50	17.50		13.50	17.50	
9/12		"	"	"		"	"	
9/19		"	"	"		"	"	16.50
12/ 5/33		"	"	"		"	18.50	"
4/17/34	20.25	"	18.50	"		"	"	"
4/24	"	"	"	18.50	18.50	"	19.50	17.50
5/ 1/	"	18.50	"	"	"	"	"	"
5/ 8	"	"	"	"	"	14.50	"	"
10/29/35	"	"	"	19.50	19.50	"	"	"
11/ 5	21.50	19.50	19.50	"	"	15.50	20.50	"
1/ 7/36	"	"	"	"	"	"	"	"

Date	Neville Island	Sharpesville	Youngstown	Erie	Everett	Duluth	Toledo	Hamilton
9/ 5/33	18.00	17.50	17.50	17.50		18.00	17.50	17.50
9/12	"	17.50	"	"	18.00	"	"	"
9/19	"	"	"	"	"	"	"	"
12/ 5/	"	"	"	"	18.50	"	"	"
4/17/34	"	18.50	"	18.50	"	19.00	18.50	"
4/24	"	"	18.50	"	19.50	"	"	18.50
5/ 1	18.50	"	"	"	"	"	"	"
5/ 8	"	"	"	"	"	"	"	"
10/29/35	"	"	"	"	"	20.50	19.50	"
11/ 5	19.50	19.50	19.50	19.50	20.00	"	"	19.50
1/ 7/36	"	"	"	"	"	20.00	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.

TABLE 46

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF
IRON AND STEEL PRODUCTS

Billets and Blooms

(Base, cents per pound)

Date	Pittsburgh Rerolling	Pittsburgh Forging	Youngstown Rerolling	Youngstown Forging	Date	Pittsburgh Rerolling	Pittsburgh Forging	Youngstown Rerolling	Youngstown Forging
12-30-19	48.00	60.00	(*)	(*)	4-12-21	28.00	41.00	(*)	(*)
1- 6-20	"	64.00	"	"	19	37.00	42.00	"	"
13	"	60.00	"	"	7- 5	33.00	38.00	"	"
20	"	64.00	"	"	26	30.00	35.00	"	"
2- 3	52.50	73.00	"	"	8-23	29.00	34.00	"	"
10	"	75.00	"	"	10-4	"	35.00	"	"
17	58.00	"	"	"	11-22	"	32.00	"	"
3- 2	60.00	80.00	"	"	1-3-22	28.00	32.00	"	"
6- 8	"	85.00	"	"	4-4	29.50	34.50	"	"
7-20	65.00	"	"	"	5-2	32.00	37.00	"	"
8-12	60.00	"	"	"	5-23	35.00	38.00	"	"
17	"	80.00	"	"	30	"	40.00	"	"
9-28	55.00	70.00	"	"	8-22	37.50	43.00	"	"
10-26	"	65.00	"	"	29	38.50	"	"	"
11- 9	50.00	60.00	"	"	9-12	40.00	45.00	"	"
30	43.50	56.00	"	"	11- 7	38.00	"	"	"
12-14	51.00	"	"	"	28	37.00	"	"	"
1- 4-21	43.50	48.50	"	"	12- 5	36.50	"	"	"
2-15	"	43.50	"	"	12	"	42.50	"	"
22	38.50	"	"	"	19	"	41.50	"	"
4- 5	38.00	43.00	"	"	26	"	42.50	"	"

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Date	Pittsburgh Re-roll	Pittsburgh Forging	Youngstown Re-roll	Youngstown Forging	Cleveland Re-roll	Cleveland Forging	Chicago Re-roll	Chicago Forging	Birmingham Re-roll	Birmingham Forging	Gary-Buffalo Re-roll	Gary-Buffalo Forging	Detroit Re-roll	Detroit Forging	Duluth Re-roll	Duluth Forging
1- 2-23	36.50	43.00	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
18	37.50	42.00	"	"	"	"	"	"	"	"	"	"	"	"	"	"
30	38.50	43.50	38.50	43.50	"	"	"	"	"	"	"	"	"	"	"	"
2- 6	"	45.00	"	45.00	"	"	"	"	"	"	"	"	"	"	"	"
13	40.00	45.00	40.00	"	"	"	"	"	"	"	"	"	"	"	"	"
20	"	47.50	"	47.50	"	"	"	"	"	"	"	"	"	"	"	"
3- 6-23	42.50	50.00	42.50	50.00	"	"	"	"	"	"	"	"	"	"	"	"
13	45.00	52.00	45.00	52.00	"	"	"	"	"	"	"	"	"	"	"	"
4- 3	"	55.00	"	55.00	"	"	"	"	"	"	"	"	"	"	"	"
10	"	52.00	"	52.00	"	"	"	"	"	"	"	"	"	"	"	"
17	"	55.00	"	55.00	"	"	"	"	"	"	"	"	"	"	"	"
29	43.00	"	43.00	"	"	"	"	"	"	"	"	"	"	"	"	"
6-12	42.50	52.50	42.50	52.50	"	"	"	"	"	"	"	"	"	"	"	"
19	"	47.50	"	47.50	"	"	"	"	"	"	"	"	"	"	"	"
9-25	40.00	"	40.00	"	"	"	"	"	"	"	"	"	"	"	"	"
11- 6	"	45.00	"	45.00	"	"	"	"	"	"	"	"	"	"	"	"
5-13	38.00	43.00	38.00	43.00	"	"	"	"	"	"	"	"	"	"	"	"
8-26	37.00	42.00	37.00	42.00	"	"	"	"	"	"	"	"	"	"	"	"
9-16	36.00	41.00	36.00	41.00	"	"	"	"	"	"	"	"	"	"	"	"
10-21	35.50	40.50	35.50	40.50	"	"	"	"	"	"	"	"	"	"	"	"
12-16	36.00	42.50	36.00	42.50	"	"	"	"	"	"	"	"	"	"	"	"
30	37.00	"	37.00	"	"	"	"	"	"	"	"	"	"	"	"	"
3-31-25	35.50	41.00	35.50	41.00	"	"	"	"	"	"	"	"	"	"	"	"
4- 7	"	40.50	"	40.50	"	"	"	"	"	"	"	"	"	"	"	"
5-26	35.00	40.00	35.00	40.00	"	"	"	"	"	"	"	"	"	"	"	"
6-21	33.50	38.50	33.50	38.50	"	"	"	"	"	"	"	"	"	"	"	"
7-21	35.00	40.00	35.00	40.00	"	"	"	"	"	"	"	"	"	"	"	"

Continued from preceding page

Date	Pittsburgh		Youngstown		Cleveland		Chicago		Birmingham		Gary-Buffalo		Detroit		Duluth	
	Re-roll	Forg-ing	Re-roll	Forg-ing	Re-roll	Forg-ing	Re-roll	Forg-ing	Re-roll	Forg-ing	Re-roll	Forg-ing	Re-roll	Forg-ing	Re-roll	Forg-ing
9- 8-25	33.50	40.00	33.50	40.00	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
11- 3	35.00	"	35.00	"	"	"	"	"	"	"	"	"	"	"	"	"
10	34.00	"	34.00	"	"	"	"	"	"	"	"	"	"	"	"	"
11-17	35.00	"	35.00	"	"	"	"	"	"	"	"	"	"	"	"	"
1- 5-26	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"
2- 1-27	33.00	"	33.00	"	"	"	"	"	"	"	"	"	"	"	"	"
3-29	34.00	"	34.00	"	"	"	"	"	"	"	"	"	"	"	"	"
4- 5	33.50	"	33.50	"	"	"	"	"	"	"	"	"	"	"	"	"
19	33.00	"	33.00	"	"	"	"	"	"	"	"	"	"	"	"	"
9-13	"	39.00	"	39.00	"	"	"	"	"	"	"	"	"	"	"	"
10- 4	"	38.00	"	38.00	"	"	"	"	"	"	"	"	"	"	"	"
9-18-28	32.00	"	32.00	"	"	"	"	"	"	"	"	"	"	"	"	"
10- 9	33.00	"	33.00	"	"	"	"	"	"	"	"	"	"	"	"	"
11- 6	"	"	"	"	33.00	"	"	"	"	"	"	"	"	"	"	"
11-20	"	"	"	(*)	"	"	34.00	"	"	"	"	"	"	"	"	"
2-19-29	"	"	"	"	"	"	35.00	"	"	"	"	"	"	"	"	"
4- 9	34.00	39.00	34.00	"	35.00	"	"	"	"	"	"	"	"	"	"	"
6-11	36.00	41.00	36.00	"	36.00	"	37.00	"	"	"	"	"	"	"	"	"
18	35.00	40.00	35.00	"	35.00	"	"	"	"	"	"	"	"	"	"	"
25	34.00	39.00	34.00	"	"	"	"	"	"	"	"	"	"	"	"	"
10-22	"	40.00	"	"	"	"	"	"	"	"	"	"	"	"	"	"
12-24	"	"	"	"	"	"	36.00	"	"	"	"	"	"	"	"	"
1-28-30	"	39.00	"	"	"	"	35.00	"	"	"	"	"	"	"	"	"
5-20	33.00	38.00	33.00	"	33.00	"	34.00	"	"	"	"	"	"	"	"	"
6-3	31.00	37.00	31.00	"	31.00	"	"	"	"	"	"	"	"	"	"	"
6-24	"	36.00	"	"	"	"	"	"	"	"	"	"	"	"	"	"
8-5	"	"	"	"	"	"	33.00	"	"	"	"	"	"	"	"	"

Continued from preceding page

Date	Pittsburgh		Youngstown		Cleveland		Chicago		Birmingham		Gary-Buffalo		Detroit		Duluth	
	Re-roll	Forging	Re-roll	Forging	Re-roll	Forging	Re-roll	Forging	Re-roll	Forging	Re-roll	Forging	Re-roll	Forging	Re-roll	Forging
12-16-30	31.00	36.00	31.00	(*)	31.00	(*)	32.00	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
23	30.00	"	30.00	"	30.00	"	31.00	"	"	"	"	"	"	"	"	"
7-14-31	29.00	35.00	29.00	"	29.00	"	"	"	"	"	"	"	"	"	"	"
12-29	28.00	"	28.00	"	28.00	"	"	"	"	"	"	"	"	"	"	"
1- 5-32	"	"	"	"	"	"	29.00	"	"	"	"	"	"	"	"	"
12	"	34.00	"	"	"	"	"	"	"	"	"	"	"	"	"	"
26	27.00	33.00	27.00	33.00	27.00	"	"	"	"	"	"	"	"	"	"	"
3- 1	"	"	"	"	26.00	"	"	"	"	"	"	"	"	"	"	"
8	26.00	"	26.00	"	"	"	"	"	"	"	"	"	"	"	"	"
7- 5	"	"	"	"	"	33.00	"	33.00	"	"	"	"	"	"	"	"
10- 4	"	"	"	"	"	"	26.00	"	"	"	"	"	"	"	"	"
12-27	"	31.00	"	31.00	"	"	"	"	"	"	"	"	"	"	"	"
1-10-33	"	"	"	"	"	"	"	31.00	"	"	"	"	"	"	"	"
9- 5	"	"	"	"	"	"	"	"	"	31.00	"	31.00	"	"	"	"
19	"	"	"	"	"	"	"	"	26.00	"	26.00	"	"	"	"	"
3-13-34	"	"	"	"	"	"	"	"	"	"	"	"	29.00	34.00	"	"
4-24	29.00	34.00	29.00	34.00	29.00	34.00	29.00	34.00	29.00	34.00	29.00	34.00	32.00	37.00	"	"
6-26	"	"	"	"	"	"	"	"	"	"	"	"	"	"	32.00	37.0
7- 3	"	"	"	"	"	"	"	"	"	"	"	"	"	"	31.00	36.0
7-10	27.00	"	27.00	"	27.00	"	27.00	"	27.00	"	27.00	"	"	"	"	"
7-17	"	32.00	"	32.00	"	32.00	"	32.00	"	32.00	"	32.00	30.00	35.00	29.00	34.0
8-20-35	"	35.00	"	35.00	"	35.00	"	35.00	"	35.00	"	35.00	"	38.00	"	37.0
11-19-35	29.00	"	29.00	"	29.00	"	29.00	"	29.00	"	29.00	"	32.00	"	31.00	"
1- 7-36	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation was reported.

TABLE 47

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF IRON AND STEEL PRODUCTS

Sheet Bars
(Dollars per gross ton)

Date	Pitts-burgh.	Youngs-town.	Date	Pitts-burgh.	Youngs-town.	Cleveland
12/30/19	50.00	(*)	3/13/23	45.00	45.00	(*)
2/ 3/20	55.00	"	4/ 3	42.50	42.50	"
2/10	58.00	"	4/17	45.00	45.00	"
2/17	60.00	"	6/19	42.50	42.50	"
3/ 2	65.00	"	9/18	40.00	40.00	"
3/23	70.00	"	10/ 9	42.50	42.50	"
3/30	80.00	"	4/29/24	41.00	41.00	"
6/22	75.00	"	5/13	40.00	40.00	"
7/13	70.00	"	7/15	38.00	38.00	"
8/17	68.00	"	8/26	37.50	37.50	"
9/14	67.50	"	9/15	37.00	37.00	"
9/28	65.00	"	12/29	38.00	38.00	"
10/12	62.50	"	3/31/25	37.00	37.00	"
11/ 9	60.00	"	5/19	35.00	35.00	"
11/23	55.00	"	10/13	33.50	33.50	"
11/30	47.00	"	11/ 3	35.00	35.00	"
2/15/21	42.00	"	11/24	36.00	36.00	"
3/ 8	40.00	"	3/ 1/27	34.00	34.00	"
3/22	38.50	"	5/24	33.50	33.50	"
3/29	38.00	"	7/19	34.00	34.00	"
4/19	39.00	"	5/29/28	33.00	33.00	"
7/5	35.00	"	7/ 3	32.00	32.00	"
7/26	32.00	"	10/ 9/	33.00	33.00	"
8/23	30.00	"	10/16	"	"	33.00
9/27	32.00	"	1/ 8/29	34.00	34.00	34.00
10/11	30.00	"	2/26	35.00	35.00	35.00
1/ 3/22	29.00	"	4/23	36.00	36.00	36.00
4/ 4	31.00	"	6/18	35.00	35.00	35.00
5/ 9	35.00	"	12/17	"	34.00	"
8/22	37.50	"	12/24	34.00	"	34.00
8/29	38.00	"	2/ 4/30	33.00	33.00	33.00
9/ 5	40.00	"	5/27	31.00	31.00	31.00
10/31	39.00	"	12/23	30.00	30.00	30.00
11/ 7	38.00	"	5/19/31	29.00	29.00	29.00
11/28	37.00	"	1/ 5/32	28.00	28.00	28.00
12/ 5	36.50	"	1/12	"	27.00	27.00
1/ 9/23	37.50	"	1/19	27.00	"	"
1/30	39.50	39.50	2/ 2	26.00	26.00	25.00
2/13	40.00	40.00	2/23	"	"	26.00
3/ 6	42.60	42.50				

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Date	Pitts-burgh	Youngs-town	Cleve-land	Buffalo	Canton	Sparrows Point
9/5/33	26.00	26.00	26.00	26.00	26.00	(*)
9/19	"	"	"	"	"	26.00
4/24/34	30.00	30.00	30.00	30.00	30.00	30.00
7/10	28.00	28.00	28.00	28.00	28.00	28.00
11/12/35	30.00	30.00	30.00	30.00	30.00	30.00
1/ 9/36	"	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation was reported.

TABLE 48

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF
IRON AND STEEL PRODUCTS

Soft Steel Bars

(Base, cents per pound)

Date	Pittsburgh	Chicago	New York, del'd
12/30/19	2.75	(*)	3.27
2/ 3/20	3.00	"	"
3/ 2	3.50	"	3.77
3/16	3.75	"	4.02
5/18	3.50	"	"
8/ 3	3.25	"	"
8/31	"	"	4.13
10/12	"	"	3.63
10/19	3.00	"	"
10/26	"	"	3.28
11/30	2.35	"	2.73
1/ 4/21	"	"	(*)
2/15	2.10	"	"
2/22	2.00	"	"
4/19	2.10	"	"
6/28	1.95	"	"
7/ 5	1.90	"	"
7/26	1.75	"	"
8/29	1.60	"	"
9/20	1.50	"	"
2/ 7/22	1.40	(*)	(*)
2/28	1.35	"	"
3/14	1.40	"	"
4/ 4	1.50	"	"
5/30	1.60	"	"
6/20/22	1.70	"	"
6/27	1.60	"	"
8/ 1	1.70	"	"
8/15	1.80	"	"
8/29	1.90	"	"
9/26	2.00	"	"
1/23/23	2.10	"	"
2/ 6	2.15	"	"
2/20	2.20	"	"
3/ 6	2.25	"	"
3/27	2.35	"	"
4/24	2.40	"	"
4/ 1/24	2.30	"	"

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Date	Pitts-burgh	Chi-cago	Cleve-land del'd	Cleveland fob	Phila-delphia del'd	New York del'd	Birm-ing-ham	Lacka-wanna	Paci-fic Ports	San Fran-cisco mills	De-troit del'd	Gary	Gulf Ports fob	Duluth
5/27/24	2.20	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
7/ 1	2.15	"	"	"	"	"	"	"	"	"	"	"	"	"
8/19	2.10	"	"	"	"	"	"	"	"	"	"	"	"	"
9/16	2.00	"	"	"	"	"	"	"	"	"	"	"	"	"
10/14	"	2.00	"	"	"	"	"	"	"	"	"	"	"	"
12/ 2	2.10	2.10	"	"	"	"	"	"	"	"	"	"	"	"
1/27/25	"	2.20	"	"	"	"	"	"	"	"	"	"	"	"
4/21	2.00	2.10	"	"	"	"	"	"	"	"	"	"	"	"
8/18	1.90	"	"	"	"	"	"	"	"	"	"	"	"	"
9/29	2.00	"	"	"	"	"	"	"	"	"	"	"	"	"
1/ 5/26	"	"	2.19	"	2.32	2.34	2.15	"	2.30	2.35	"	"	"	"
2/ 9	"	"	"	"	"	"	"	"	2.35	"	"	"	"	"
5/25	1.90	"	"	"	2.22	2.24	"	"	"	"	"	"	"	"
6/ 1	2.00	"	"	"	2.32	2.34	"	"	"	"	"	"	"	"
6/22	"	"	"	"	"	"	"	"	"	"	"	"	"	"
12/28	"	"	"	2.00	"	"	"	"	"	"	"	"	"	"
1/11/27	"	"	"	"	"	"	2.05	"	"	"	"	"	"	"
1/18	"	"	2.09	1.90	2.22	2.24	"	"	"	"	"	"	"	"
2/ 1	1.90	"	"	"	"	"	"	"	"	"	"	"	"	"
2/ 8	"	2.00	"	"	"	"	"	"	"	"	"	"	"	"
4/26	"	"	"	"	"	2.19	"	"	"	"	"	"	"	"
5/10	1.85	"	"	"	2.17	"	"	"	"	"	"	"	"	"
5/24	"	"	"	1.85	"	"	"	"	"	"	"	"	"	"
6/ 7	"	"	2.04	"	2.12	2.14	"	"	"	"	"	"	"	"

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Date	Pittsburgh	Chicago	Cleveland del'd	Cleveland fob	Philadelphia del'd	New York del'd	Birmingham	Lackawanna	Pacific Ports	San Francisco mills	Detroit del'd	Gary	Gulf Ports fob	Duluth
6/14/27	1.80	2.00	1.99	1.80	2.12	2.14	2.05	(*)	2.35	2.35	(*)	(*)	(*)	(*)
6/28	"	"	"	"	"	"	2.00	"	"	"	"	"	"	"
8/ 2	"	"	"	"	"	"	1.95	"	"	"	"	"	"	"
8/23	"	"	1.80	"	"	"	"	"	"	"	"	"	"	"
9/ 6	"	1.90	1.99	"	"	"	"	"	"	"	"	"	"	"
9/20	1.75	"	1.94	1.75	2.07	2.09	"	"	"	"	"	"	"	"
10/11	"	1.85	"	"	"	"	"	"	"	"	"	"	"	"
11/ 8	"	"	"	"	"	"	1.90	"	"	"	"	"	"	"
11/15	"	"	1.90	1.85	"	"	1.95	"	"	"	"	"	"	"
12/13	"	"	"	"	"	"	"	1.90*/	"	"	"	"	"	"
1/ 17/28	1.80	1.90	"	"	2.12	2.14	"	" */	"	"	"	"	"	"
1/24	"	"	"	"	"	"	2.00	" */	"	"	"	"	"	"
1/31	1.85	2.05	2.04	1.85	2.17	2.19	2.10	1.95	"	"	"	"	"	"
2/21	"	1.95	"	"	"	"	"	"	"	"	"	"	"	"
3/13	"	"	"	"	"	"	2.05	"	"	"	"	"	"	"
3/27	"	2.00	"	"	"	"	"	"	"	"	"	"	"	"
9/18	"	"	"	1.90	"	"	"	"	"	"	"		"	"
9/25	"	"	1.95	"	"	"	"	"	"	"	"	"	"	"
10/23	1.90	"	1.90	"	2.22	2.24	2.15	2.00	"	"	"	"	"	"
11/20	1.95	"	"	"	2.27	2.29	"	"	"	"	"	"	"	"
12/ 4	1.90	"	"	"	2.22	"	"	2.05	"	"	"	"	"	"
12/11	"	"	1.92½	"	"	"	"	"	"	"	"	"	"	"
12/24	"	"	"	"	"	2.24	"	2.00	"	"	"	"	"	"
2/19/29	1.95	2.05	"	"	"	"	"	"	"	"	"	"	"	"
3/19	"	"	1.95	"	"	"	"	"	"	"	"	"	"	"
3/26	"	"	1.97½	1.95	2.27	2.29	"	2.05	"	"	"	"	"	"
6/18	"	"	1.95	"	"	"	"	"	"	"	"	"	"	"
7/ 9	"	"	1.92½	1.90	"	"	"	"	"	"	"	"	"	"

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Date	Pitts-burgh	Chi-cago	Cleve-land del'd	Cleve-land fob	Phila-delphia del'd	New York del'd	Birm-ing-ham	Lacka-wanna	Paci-fic Ports	San Fran-cisco	De-troit mills del'd	Gary	Gulf Ports fob	Duluth
9/ 3/29	1.95	2.05	1.92½	1.90	2.27	2.29	2.20	2.05	2.35	2.35	(*)	(*)	(*)	(*)
9/17	"	"	"	"	"	"	2.10	"	"	"	"	"	"	"
10/ 8	1.90	"	"	"	2.22	2.24	"	"	"	"	"	"	"	"
10/22	"	"	"	"	"	"	"	2.00	"	"	"	"	"	"
10/29	"	2.00	1.90	"	"	"	"	"	"	"	"	"	"	"
12/31	"	"	1.85	1.85	"	"	"	"	"	"	"	"	"	"
1/ 7/30	"	"	"	"	"	"	2.05	"	"	"	"	"	"	"
1/21	"	"	"	"	"	"	2.00	"	"	"	"	"	"	"
2/18	1.85	1.95	"	"	2.17	2.19	"	"	"	"	"	"	"	"
4/ 1	1.80	"	"	"	2.12	2.14	"	1.90	"	"	"	"	"	"
4/ 8	"	1.85	1.80	(*)	"	"	"	"	"	"	"	"	"	"
4/29	1.75	"	"	"	2.07	2.09	"	"	"	"	"	"	"	"
5/13	"	"	1.75	"	"	"	1.95	1.85	"	"	"	"	"	"
6/17	"	"	"	"	2.04	2.08	"	"	"	"	"	"	"	"
6/24	1.65	1.75	"	"	1.75	"	"	1.75	"	"	"	"	"	"
7/15	1.60	"	1.70	"	1.94	1.98	1.85	"	2.25	2.25	"	"	"	"
9/ 2	"	"	1.65	"	"	"	"	"	"	"	"	"	"	"
9/ 9	"	1.70	"	"	1.89	1.93	"	1.70	"	"	"	"	"	"
9/23	"	"	"	"	1.94	1.98	"	"	"	"	"	"	"	"
9/30	1.65	"	1.60	"	"	"	"	"	"	"	"	"	"	"
10/ 7	1.60	"	"	"	1.89	1.93	"	"	"	"	"	"	"	"
10/14	"	"	"	"	"	"	1.80	"	"	"	"	"	"	"
11/6	"	"	"	"	"	"	"	"	2.10	"	"	"	"	"
11/ 9	"	"	"	"	"	"	1.75	"	"	"	"	"	"	"
12/30	"	"	"	"	"	"	"	"	2.25	"	"	"	"	"
1/ 6/31	"	"	1.65	"	"	"	"	"	"	"	"	"	"	"
1/13	1.65	"	1.70	"	1.94	"	1.80	1.75	"	"	"	"	"	"

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Date	Pittsburgh	Chicago	Cleveland del'd	Cleveland fob	Philadelphia del'd	New York del'd	Birmingham	Lackawanna	Pacific Ports	San Francisco mills	Detroit del'd	Gary	Gulf Ports fob	Duluth
1/27/31	1.65	1.75	1.70	(*)	1.94	1.93	1.80	1.75	2.25	2.25	(*)	(*)	(*)	(*)
2/ 3	"	"	1.65	"	"	"	"	"	"	"	"	"	"	"
3/17	"	1.70	"	"	"	"	"	"	"	"	"	"	"	"
3/31	"	"	1.70	"	"	"	"	"	"	"	"	"	"	"
4/ 7	"	1.75	"	"	"	"	"	"	"	"	"	"	"	"
4/28	"	"	1.65	"	"	1.98	"	"	"	"	"	"	"	"
5/26	"	1.70	"	"	"	"	"	"	"	"	"	"	"	"
6/18	"	"	"	"	"	"	"	"	2.10	2.10	"	"	"	"
7/14	"	"	"	"	"	"	1.70	"	"	"	"	"	"	"
7/21	1.60	"	"	"	1.89	1.93	"	1.70	"	"	"	"	"	"
8/11	"	"	"	"	"	"	"	"	2.00	(*)	"	"	"	"
12/ 1	"	1.60	"	"	"	"	"	"	"	"	"	"	"	"
12/29	1.50	"	1.55	"	1.79	1.83	"	1.60	"	"	"	"	"	"
1/ 5/32	"	"	"	"	1.81	1.85	"	"	"	"	"	"	"	"
1/12	"	1.70	"	"	"	"	"	"	"	"	"	"	"	"
2/16	"	1.60	"	"	"	"	"	"	"	"	"	"	"	"
3/ 1	"	"	1.65	"	"	"	"	"	"	"	"	"	"	"
3/ 8	"	1.70	"	"	"	"	"	"	"	"	"	"	"	"
3/29	1.60	"	"	"	1.91	1.95	1.75	1.70	"	"	1.80	"	"	"
6/ 7	"	"	"	"	"	"	"	"	2.10	"	"	"	"	"
8/29/33	"	1.65	"	"	"	"	"	"	*/ 2.15	"	"	"	"	"
9/14	"	"	"	"	"	"	"	"	"	"	(*)	1.65	"	"
10/ 3	1.75	1.80	1.80	"	2.04	2.08	1.90	1.85	*/ 2.30	"	"	1.80	2.15	"
2/13	"	"	"	"	"	"	"	"	"	"	1.90	"	"	"
4/24/34	1.90	1.95	1.95	"	2.19	2.23	2.05	2.00	*/ 2.45	"	2.05	1.95	2.30	"

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Date	Pitts-burgh	Chi-cago	Cleve-land del'd	Cleve-land fob	Phila-delphia del'd	New York del'd	Birm-ing-ham	Lacka-wanna	Paci-fic Ports	San Fran-cisco mills	Detro-it del'd	Gary	Gulf Ports fob	Duluth
6/12/34	1.90	1.95	1.95	(*)	2.19	2.23	2.05	2.00*/	2.45	(*)	2.05	1.95	2.30	2.10
7/ 3	"	"	"	"	"	"	"	"	"	"	"	"	"	2.05
7/10	1.80	1.85	1.85	"	2.09	2.13	"	"	"	"	1.95	1.85	"	"
7/17	"	"	"	"	"	"	1.95	1.90*/	2.35	"	"	"	2.20	1.95
4/23/35	"	"	"	"	"	2.15	"	"	"	"	"	"	"	"
5/ 7	"	"	"	"	2.11	"	"	"	"	"	"	"	"	"
10/ 1	1.85	1.90	1.90	"	2.16	2.20	2.00	1.95*/	2.40	"	"	1.90	2.25	2.00
1/ 7/36	"	"	"	"	"	"	"	"	"	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation was reported.
*/: Quoted at Buffalo.

TABLE 49

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF
IRON AND STEEL PRODUCTS

Tank Plates
(Cents per pound)

Date	Pitts-burgh	Chi-cago	New York del'd	Gary	Cleve-land del'd	Coates-ville	Spar-rows Point	Phila-delphia del'd	Birm-ing-ham	Gulf Ports fob docks	Pacific Ports fob docks
12/30/19	2.65	(*)	3.02	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
1/27/20	3.00	"	"	"	"	"	"	"	"	"	"
2/ 3	3.50	"	3.17	"	"	"	"	"	"	"	"
3/16	3.75	"	4.02	"	"	"	"	"	"	"	"
6/18	3.50	"	3.77	"	"	"	"	"	"	"	"
7/20	3.25	"	3.77	"	"	"	"	"	"	"	"
8/ 3	"	"	3.52	"	"	"	"	"	"	"	"
8/31	"	"	3.63	"	"	"	"	"	"	"	"
10/19	3.00	"	"	"	"	"	"	"	"	"	"
10/26	2.85	"	"	"	"	"	"	"	"	"	"
11/30	2.65	"	3.03	"	"	"	"	"	"	"	"
2/ 1/21	2.50	"	2.88	"	"	"	"	"	"	"	"
2/ 8	2.40	"	2.78	"	"	"	"	"	"	"	"
2/15	2.25	"	2.63	"	"	"	"	"	"	"	"
2/22	2.15	"	2.53	"	"	"	"	"	"	"	"
3/ 1	2.10	"	2.48	"	"	"	"	"	"	"	"
3/15	2.00	"	2.38	"	"	"	"	"	"	"	"
4/19	2.20	"	2.58	"	"	"	"	"	"	"	"
6/ 7	2.00	"	2.38	"	"	"	"	"	"	"	"
6/21	1.90	"	2.28	"	"	"	"	"	"	"	"

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(Continued from the preceding page)

Date	Pitts-burgh	Chi-cago	New York del'd	Gary	Cleveland del'd	Coates-ville	Spar-rows Point	Phila-delphia del'd	Birm-ing-ham	Gulf Ports fob docks	Pacific Ports fob docks
7/19/21	1.80	(*)	2.18	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
8/30	1.70	"	2.08	"	"	"	"	"	"	"	"
9/ 6	"	1.75	2.03	"	"	"	"	"	"	"	"
9/13	1.65	"	"	"	"	"	"	"	"	"	"
9/20	1.60	"	1.98	"	"	"	"	"	"	"	"
9/27	"	1.65	"	"	"	"	"	"	"	"	"
10/11	"	1.75	"	"	"	"	"	"	"	"	"
10/25	"	"	1.88	"	"	"	"	"	"	"	"
11/ 8	1.50	"	"	"	"	"	"	"	"	"	"
12/13	"	1.60	1.83	"	"	"	"	"	"	"	"
1/ 3/22	"	"	1.88	"	"	"	"	"	"	"	"
2/ 7	1.40	1.55	1.78	"	"	"	"	"	"	"	"
2/28	1.35	"	1.73	"	"	"	"	"	"	"	"
3/21	1.40	1.60	1.78	"	"	"	"	"	"	"	"
4/18	1.50	"	1.88	"	"	"	"	"	"	"	"
5/ 9	"	1.65	"	"	"	"	"	"	"	"	"
5/16	1.60	"	1.98	"	"	"	"	"	"	"	"
5/23	"	1.70	"	"	"	"	"	"	"	"	"
6/27	1.70	1.75	2.08	"	"	"	"	"	"	"	"
7/ 3	"	"	2.04	"	"	"	"	"	"	"	"
8/ 8	1.80	1.90	2.14	"	"	"	"	"	"	"	"
8/15	1.90	"	2.34	"	"	"	"	"	"	"	"
8/22	2.00	2.20	"	"	"	"	"	"	"	"	"
9/ 5	"	2.30	2.49	"	"	"	"	"	"	"	"
9/19	2.25	"	2.34	"	"	"	"	"	"	"	"
10/17	2.00	2.20	"	"	"	"	"	"	"	"	"
10/31	"	2.30	"	"	"	"	"	"	"	"	"

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Date	Pitts-burgh	Chi-cago	New York del'd	Gary	Cleve-land del'd	Coates-ville	Spar-rows Point	Phila-delphia del'd	Birm-ing-ham	Gulf Ports fob docks	Pacific Ports fob dock
11/28/22	1.95	(*)	2.29	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
1/ 9/23	2.00	"	(*)	"	"	"	"	"	"	"	"
1/16	2.10	"	"	"	"	"	"	"	"	"	"
2/ 6	2.20	"	"	"	"	"	"	"	"	"	"
2/20	2.25	"	"	"	"	"	"	"	"	"	"
3/20	2.35	"	"	"	"	"	"	"	"	"	"
3/27	2.45	"	"	"	"	"	"	"	"	"	"
4/24	2.50	"	"	"	"	"	"	"	"	"	"
12/24	"	"	"	"	"	"	"	"	"	"	"
2/19/24	2.40	"	"	"	"	"	"	"	"	"	"
4/ 1	2.30	"	"	"	"	"	"	"	"	"	"
4/29	2.25	"	"	"	"	"	"	"	"	"	"
5/ 6	2.20	"	"	"	"	"	"	"	"	"	"
6/17	2.15	"	"	"	"	"	"	"	"	"	"
7/22	2.00	"	"	"	"	"	"	"	"	"	"
8/17	1.90	"	"	"	"	"	"	"	"	"	"
9/ 9	1.80	"	"	"	"	"	"	"	"	"	"
10/14	"	2.00	"	"	"	"	"	"	"	"	"
12/ 2	1.90	2.20	"	"	"	"	"	"	"	"	"
12/29	2.00	"	"	"	"	"	"	"	"	"	"
1/ 6/25	"	"	"	"	"	"	"	"	"	"	"
1/27	"	2.30	"	"	"	"	"	"	"	"	"
4/21	"	2.20	"	"	"	"	"	"	"	"	"
6/ 9	1.90	"	"	"	"	"	"	"	"	"	"
6/23	"	2.14	"	"	"	"	"	"	"	"	"
6/30	"	2.10	"	"	"	"	"	"	"	"	"
8/18	1.80	"	"	"	"	"	"	"	"	"	"

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Date	Pitts-burgh	Chica-go	New York del'd	Gary	Cleve-land del'd	Coates-ville	Spar-rows-Point	Phila-delphia del'd	Birm-ing-ham	Gulf Ports fob docks	Pacific Ports fob docks
11/10/25	1.85	2.10	1.94	(*)	1.99	(*)	(*)	1.92	1.90	2.25	(*)
11/17	"	"	"	"	"	"	"	"	2.00	"	"
11/24	"	"	"	"	"	"	"	"	"	2.20	"
12/ 1/	"	"	"	"	"	"	"	"	2.05	"	"
12/ 8	"	"	2.04	"	"	"	"	2.02	"	2.30	"
12/15	1.90	"	"	"	"	"	"	"	"	(*)	"
12/29	"	"	2.09	"	"	"	"	2.07	"	"	"
1/ 5/26	1.90	"	"	"	"	"	"	"	"	"	2.30
1/19	1.85	"	"	"	"	"	"	"	"	"	"
2/ 2/26	1.80	"	"	"	"	"	"	"	"	"	"
2/16	"	"	"	"	"	"	"	"	2.00	"	"
3/ 9	1.85	"	2.14	"	2.04	"	"	2.12	1.95	"	"
3/30	1.90	"	2.24	"	2.09	"	"	2.22	2.00	"	"
4/27	"	"	"	"	"	"	"	"	2.05	"	2.25
5/ 4	"	"	"	"	"	"	"	"	2.00	"	"
5/11	1.85	"	"	"	"	"	"	"	2.05	"	"
6/ 1	"	"	2.19	"	"	"	"	2.17	"	"	"
6/ 8	"	"	"	"	"	"	"	"	2.00	"	"
6/22	1.90	"	2.24	"	"	"	"	2.22	"	"	"
7/27	"	"	"	"	"	"	"	"	2.05	"	"
8/ 3	"	"	"	"	"	"	"	"	"	"	2.30
8/24	"	"	"	"	"	"	"	"	"	"	2.25
2/ 1/27	"	"	"	"	"	"	"	"	"	"	2.30
2/ 8	1.80	2.00	2.19	"	"	"	"	"	"	"	2.25
2/21	"	"	2.14	"	"	"	"	2.12	"	"	"
5/ 3	"	"	"	"	"	"	"	"	1.95	"	"
6/ 7	"	"	2.09	"	1.99	"	"	2.07	"	"	"

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Date	Pittsburgh	Chicago	New York del'd	Gary	Cleveland del'd	Coatesville	Sparrows Point	Philadelphia del'd	Birmingham	Gulf Ports fob docks	Pacific Ports fob docks	Lackawanna
6/14/27	1.75	2.00	2.09	(*)	1.94	(*)	(*)	2.07	1.95	(*)	2.25	(*)
6/21	"	"	"	"	1.99	"	"	"	1.90	"	"	"
9/ 6	"	1.90	"	"	"	"	"	"	"	"	2.30	"
9/13	"	"	2.04	"	"	"	"	2.02	"	"	"	"
9/20	"	"	"	"	1.94	"	"	"	"	"	"	"
9/27	"	"	2.09	"	"	"	"	2.07	"	"	"	"
10/10	"	1.85	"	"	"	"	"	"	"	"	"	"
11/15	"	"	"	"	1.99	"	"	"	1.95	"	2.40	"
12/ 6	1.80	1.90	2.14	"	"	"	"	2.12	"	"	"	"
12/13	"	"	2.12½	"	"	"	"	2.05	"	"	"	"
12/20	"	"	"	"	"	1.95	1.95	"	"	"	2.35	1.90
12/27	"	"	"	"	"	"	"	"	"	"	2.30	"
1/24/28	"	"	"	"	"	"	"	"	2.00	"	"	1.90
1/31	1.85	2.05	2.17½	"	2.04	2.00	2.00	2.10	2.10	"	"	1.95
2/ 7	"	1.95	"	"	"	"	"	"	"	"	"	"
2/28	"	"	"	"	"	"	"	"	2.05	"	"	"
3/20	"	2.00	"	"	"	"	"	"	"	"	"	"
6/26	"	"	"	"	"	"	"	"	"	"	2.25	"
8/28	"	"	"	"	"	"	"	"	"	"	2.20	"
10/ 2	1.90	"	2.22½	"	"	2.05	2.05	2.15	2.15	"	"	2.00
10/ 9	"	"	"	"	2.09	"	"	"	"	"	"	"
12/18	"	"	2.17½	"	"	2.00	2.00	2.10	"	"	"	"
2/19/29	"	2.05	"	"	"	"	"	"	"	"	"	"
3/26	"	"	"	"	2.14	"	"	"	"	"	"	"
4/ 2	1.95	"	2.22½	"	"	2.05	2.05	2.15	"	"	"	2.05
7/ 2	"	"	"	"	"	"	"	"	"	"	2.35	"
8/13	"	"	"	"	"	"	"	"	2.20	"	"	"
9/10	"	"	"	"	"	"	"	"	2.10	"	"	"

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Date	Pitts-burgh	Chica-go	New York del'd	Gary	Cleve-land del'd	Coates-ville	Spar-rows Point	Phila-delphia del'd	Birm-ing-ham	Gulf Ports fob docks	Pacific Ports fob docks	Lacka-wanna
9/10/29	1.90	2.05	2.2[illegible]½	(*)	2.09	2.05	2.05	2.15	2.10	(*)	2.35	2.[illegible]5
11/ 4	"	"	2.17½	"	"	2.00	2.00	2.10	"	"	"	2.00
11/12	"	2.00	"	"	"	"	"	"	"	"	2.25	"
12/ 3	"	"	"	"	"	"	"	"	2.05	"	"	"
1/ 7/30	"	"	2.12½	"	"	1[illegible]95	"	2.05	"	"	"	"
1/14	"	"	2.07½	"	2.04	1.90	1.90	2.00	"	"	"	1.90
1/21	"	"	2.02½	"	1.99	"	"	"	"	"	"	"
1/28	"	1.95	"	"	"	"	"	"	2.00	"	"	"
2/ 4	"	"	2.07½	"	"	"	"	"	"	"	"	"
3/25	"	1.90	"	"	"	1.85	"	1.95	"	"	2.20	"
4/15	"	"	2.02½	"	"	"	"	"	"	"	"	"
4/29	"	"	"	"	1.94	"	"	"	"	"	"	"
5/ 6	1.75	1.85	"	"	"	"	1.85	"	"	"	"	1.85
5/13	"	"	1.97½	"	1.89	1.80	"	"	1.95	"	"	"
5/20	1.70	1.80	1.98	"	1[illegible]88½	"	1.80	1.90½	"	"	"	1.80
6/10	"	"	1.93	"	"	"	"	"	"	"	"	"
6/17	"	"	"	"	"	"	"	"	"	"	2.25	"
6/24	1.65	1.75	"	"	"	1.75	1.75	"	"	"	"	1.75
7/ 1	"	"	"	"	1.83½	"	"	1.85½	1.90	"	"	"
7/22	"	"	"	"	"	"	"	1.80½	"	"	"	"
7/29	"	"	"	"	"	1.70	"	"	"	"	2.15	"
8/ 5	"	"	1.88	"	"	"	"	"	"	"	"	"
8/12	1.60	"	"	"	"	"	"	"	"	"	"	"
8/19	"	"	"	"	1.78½	"	1.75	"	1.85	"	"	"
8/26	"	"	"	"	"	"	1.70	"	"	"	"	1.70
9/ 9	"	1.70	"	"	"	"	"	"	"	"	"	"

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Date	Pitts-burgh	Chi-cago	New York del'd	Cleve-land del'd	Gary	Coates-ville	Spar-rows Point	Phila-delphia del'd	Birm-ing-ham	Gulf Ports fob docks	Pacific Ports fob docks	Lacka-wanna
9/30/30	1.60	1.70	1.88	1.78½	(*)	1.70	1.70	1.80½	1.80	(*)	2.15	1.70
10/ 7	"	"	"	"	"	"	"	"	"	"	2.05	"
11/11	"	"	"	"	"	"	"	"	1.75	"	"	"
1/13/31	1.65	"	1.93	1.83½	"	1.75	1.75	1.85½	1.80	"	"	1.75
1/27	"	1.75	"	"	"	"	"	"	"	"	"	"
2/10	"	1.70	"	"	"	"	"	"	"	"	"	"
2/17	"	"	"	1.78½	"	"	"	"	"	"	"	"
3/24	"	"	"	1.83½	"	"	"	"	"	"	"	"
4/ 7	"	1.75	"	"	"	"	"	"	"	"	"	"
5/ 5	"	1.70	"	"	"	"	"	"	"	"	"	"
6/16	"	"	"	"	"	"	"	"	"	"	2.00	"
6/23	"	"	"	"	"	"	"	"	1.70	"	"	"
7/14	"	"	"	1.78½	"	"	"	"	"	"	"	"
7/21	1.60	"	1.88	"	"	1.70	1.70	1.80½	1.70	"	"	1.70
8/11	"	"	"	"	"	"	"	"	"	"	1.85	"
11/17	"	"	"	"	"	"	"	1.73½	"	"	"	"
12/ 1	"	1.60	1.83	"	"	"	"	"	"	"	2.00	"
12/ 8	1.55	"	"	"	"	1.65	1.65	"	"	"	"	1.65
12/22	1.50	"	1.78	"	"	1.60	1.60	"	"	"	"	1.60
12/29	"	"	"	1.62½	"	"	"	"	"	"	"	"
1/ 5/32	"	"	1.798	1.703	"	"	"	1.693	"	"	"	"
2/ 2	"	1.70	"	"	"	"	"	"	"	"	"	"
6/28	1.60	"	1.898	1.8035	"	1.70	1.70	1.7935	1.75	"	"	1.70
7/ 7	"	"	"	"	"	"	"	"	"	"	"	(*)
1/17/33	"	"	1.798	"	"	1.60	1.60	1.6935	"	"	"	"
1/24	"	"	1.698	"	"	1.50	1.50	"	"	"	"	"

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Date	Pitts-burgh	Chica-go	New York del'd	Gary	Cleve-land del'd	Coates-ville	Spar-rows Point	Phila-delphia del'd	Birm-ing-ham	Gulf Ports fob docks	Pacific Ports fob docks	Lacka-wanna
3/ 7/33	1.60	1.70	1.648	(*)	1.8035	1.45	1.45	1.5635	1.75	(*)	2.00	(*)
3/28	"	"	1.598	"	"	1.40	1.40	1.4935	"	"	"	"
4/18	1.50	"	"	"	"	"	"	"	"	"	"	"
4/25	"	"	"	"	1.7035	"	"	"	"	"	"	"
5/ 9	"	"	"	"	1.8035	"	"	"	"	"	"	"
6/27	1.60	"	"	"	"	"	"	"	"	"	"	"
8/ 1	"	"	1.898	"	"	1.70	1.70	1.7935	"	"	2.10	"
9/ 5	"	"	"	"	"	"	"	"	"	"	2.15	"
9/12	"	"	"	1.65	"	"	"	"	"	"	"	"
10/ 3	1.70	1.75	1.98	1.75	1.885	1.80	1.80	1.885	1.85	2.10	2.25	"
4/24/34	1.85	1.90	2.13	1.90	2.035	1.95	1.95	2.035	2.00	2.25	2.40	"
7/10	1.80	1.85	"	1.85	1.985	"	"	"	"	"	"	"
7/17	"	"	2.08	"	"	1.90	1.90	1.985	1.95	2.20	2.35	"
4/23/35	"	"	2.0926	"	1.99795	"	"	"	"	"	"	"
5/ 7	"	"	2.09	"	1.995	"	"	1.99	"	"	"	"
1/ 7/36	"	"	"	"	"	"	"	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation was reported.
#: Price quoted f.o.b. Buffalo.

TABLE 50

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF IRON AND STEEL PRODUCTS

Tin Mill Black Plates

(Base, cents per pound)

Date	Pittsburgh	Chicago	Date	Pittsburgh	Chicago
12/30/19	4.35	(*)	10/14/24	3.40	3.60
1/20/20	4.60	"	11/25	"	3.70
2/ 3	5.00	"	12/ 9	3.50	"
3/ 2	5.50	"	12/29	3.60	"
7/13	6.50	"	2/10/25	3.50	"
7/20	7.50	"	3/17	3.40	"
9/28	7.00	"	4/1	"	3.60
10/ 8	6.75	"	5/ 5	"	3.50
10/26	6.50	"	5/12	3.30	"
11/ 9	6.00	"	5/26	3.20	"
11/23	5.50	"	6/ 2/25	3.15	"
11/30	4.85	"	6/ 9	"	3.25
12/ 7	4.35	"	6/23	3.10	"
2/15/21	4.20	"	7/14	3.15	"
4/5	4.00	"	9/ 1	3.10	"
4/12	3.85	"	9/22	"	3.30
4/19	4.00	"	10/13	"	3.25
6/ 7	3.85	"	10/27	3.15	"
6/28	3.75	"	11/ 3	3.25	3.35
7/ 5	3.50	"	12/ 8	3.35	3.45
7/19	3.25	"	4/27/26	3.25	"
7/26	3.00	"	6/ 1	3.15	"
8/23	2.75	"	6/22	"	3.35
9/27	3.00	"	7/13	"	3.25
11/ 8	2.90	"	8/24	3.10	"
11/15	2.75	"	9/14	3.15	"
11/29	3.00	"	9/21	3.10	"
4/11/22	3.15	"	1/18/27	3.00	"
8/15/	3.35	"	2/ 8	"	3.10
2/ 6/23	3.50	"	3/29	3.05	"
2/13	3.35	"	5/10	3.00	"
2/27	3.50	"	6/28	3.10	3.20
5/ 1	3.85	"	10/11	3.00	"
6/ 3/24	3.75	"	10/22	2.90	3.00
7/ 1	3.65	"	12/ 6	2.85	"
7/15	3.50	"	12/27	2.90	"
9/9	3.40	"	2/21/28	3.00	3.10

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(Continued from the preceding page)

Date	Pittsburgh	Chicago	Pacific Coast Ports fob. cars dock.
4/ 3/28	2.90	3.10	(*)
6/12	2.80	"	"
6/19	2.85	"	"
9/11	2.90	"	"
10/16	"	3.00	"
12/11	3.00	"	"
1/15/29	"	3.10	"
7/23	2.90	"	"
8/ 6	"	3.00	"
3/11/30	2.85	"	"
3/18	2.80	"	"
4/28	"	2.90	"
5/27	2.75	"	"
7/22	2.70	2.80	"
11/ 4	2.65	2.75	"
12/29	2.60	"	"
2/17/31	2.55	"	"
2/24	"	2.65	"
3/18	2.50	2.60	"
5/10	2.40	2.50	"
10/11/32	2.30	2.40	"
10/25	2.30	2.50	"
12/27	2.40	"	"
1/24/33	2.20	2.30	"
2/14	2.30	2.40	"
6/27	2.50	2.60	"
12/ 5	2.65	2.75	"
4/24/34	2.85	2.95	"
6/12	"	"	3.35
7/10	2.75	2.85	"
7/17	"	"	3.25
8/14	"	"	3.35
1/ 7/36	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation was reported.

TABLE 51

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF IRON AND STEEL PRODUCTS

Cold Rolled Strips
(Cents per pound)

Date	Pittsburgh	Cleveland	Chicago Del'd	Worcester
12-30-19	5.50	(*)	(*)	(*)
1- 6-20	6.00	"	"	"
2- 3	7.00	"	"	"
4-27	8.50	"	"	"
11-9	8.00	"	"	"
12-7	7.00	"	"	"
12-21	6.25	"	"	"
4-19-21	5.50	"	"	"
6-28	5.00	"	"	"
7- 3	4.75	"	"	"
7-12	4.25	"	"	"
8-16	4.00	"	"	"
10-18	3.75	"	"	"
11-15	4.00	"	"	"
1- 3	3.50	"	"	"
4-11	3.65	"	"	"
5-30	3.75	"	"	"
6- 6	4.00	"	"	"
8-29	4.25	"	"	"
10- 3	4.50	"	"	"
2-13-23	4.75	"	"	"
3- 6	5.00	"	"	"
4- 3	5.25	"	"	"
6-26	5.00	"	"	"
12- 4	4.90	"	"	"
12-11	4.75	"	"	"
12-24	5.00	"	"	"
2- 5-24	4.75	"	"	"
5- 6	4.50	"	"	"
7- 8	4.25	"	"	"
8- 5	4.00	"	"	"
9- 30	"	4.00	"	"

Continued on following page

Date	Pittsburgh	Cleveland	Chicago Del'd	Worcester
10-14	4.00	4.00	4.30	4.15
11-25	"	4.15	4.45	4.30
12-29-24	3.60	"	3.70	"
1-13-25	4.00	4.00	4.45	"
8-24	"	"	4.30	"
8-31	"	"	"	4.15
5-5	"	3.75	4.05.	"
5-26	3.75	"	"	3.90
6-2	3.65	3.50	4.00	"
6-9	3.50	"	3.80	"
6-23	"	3.40	"	"
7-7	"	3.50	"	"
7-21	3.75	3.75	3.90	"
8-18	"	"	4.05	"
10-27	"	3.90	"	"
11-3	3.90	"	4.20	4.05
4-13-26	3.75	3.75	"	"
4-20	"	3.50	"	"
4-27	"	3.75	"	"
5-11-26	"	"	4.05	"
6-15-26	"	3.60	"	"
6-29	3.60	"	"	"
7-6-26	"	"	3.90	"
7-27	"	3.40	"	"
8-3-26	"	"	3.75	3.75
8-17-26	"	"	3.90	"
8-31-26	3.50	"	3.80	"
9-7-26	"	3.50	"	"
9-21-	"	3.25	"	"
10-5-26	3.25	"	"	"
10-12	"	"	3.55.	"
10-19	"	3.15	3.45	"
10-26	"	"	3.35	"
11-2-26	"	"	3.45	"
11-23-26	"	"	3.40	"
11-30	"	3.00	"	"
12-7-26	3.10	"	"	"

Continued on following page

Date	Pittsburgh	Cleveland	Chicago Del'd	Worcester
12-14-26	3.00	3.00	3.30	3.75
1-25-27	2.80	2.85	3.15	(*)
3-15-27	3.00	3.00	3.30	"
5-10-27	3.25	3.25	3.55	"
6-21-27	"	"	"	3.40
9-20-27	3.00	3.00	3.30	3.15
9-27	3.25	3.25	3.55	3.40
10-18-27	3.00	3.00	3.30	3.15
10-25	3.25	3.15	3.55	3.40
11- 1-27	3.00	"	"	"
11- 8	"	3.00	"	"
11-22	"	"	3.40	"
11-28	"	"	3.30	3.15
12- 6-27	"	"	3.20	3.25
1-29-28	"	"	3.30	"
3-27-28	"	"	"	3.15
6-26-28	"	2.90	"	"
7-24-28	2.90	"	"	"
8-21-28	2.65	"	"	"
8-28-28	"	2.65	2.95	2.90
9-11-28	2.75	2.75	3.05	"
10-25-28	"	"	"	3.00
11- 6-28	2.85	2.85	3.15	"
2-19-28	"	2.95	"	"
2-26-28	"	2.85	"	"
3-19-28	2.75	2.75	3.05	2.90
1-7-30	"	2.65	"	"
1-21-30	2.65	"	"	2.80
1-28-30	"	"	2.95	"
3-18-30	2.55	"	"	"
3-25-	"	2.55	2.85	"
4-28-	2.45	"	"	"
5- 6	"	"	"	2.70
5-20	"	2.45	2.75	2.60
5-27-	"	"	2.73	"
8-5-	2.35	2.35	2.63	"
10- 7	"	"	"	2.50

Continued on following page.

Date	Pittsburgh	Cleveland	Chicago Del'd	Worcester
11-25-30	2.25	2.25	2.53	2.50
3-31-31	"	"	"	2.40
4-28-31	2.15	2.15	2.43	2.30
10-27-31	2.05	"	2.33	"
11-10-31	"	2.05	"	"
11-24-31	"	"	"	2.20
12-15-31	2.00	2.00	"	"
1-5-32	1.95	1.90	2.35	2.15
1-12	"	"	2.25	"
1-19	1.90	1.85	2.20	2.05
3-15-32	2.00	2.00	2.30	2.20
9-6-32	"	1.90	"	"
9-13	1.90	"	2.20	"
11- 1-	2.00	2.00	2.30	"
1-3-33	1.90	1.90	2.20	"
1-24-	"	"	"	2.05
1-31	1.80	1.80	2.10	"
2- 7	"	"	"	2.00
2-14	"	"	2.20	"
5-23	2.00	2.00	2.30	2.20
5-30	"	1.80	"	2.15
9- 5	2.40	2.40	2.68	2.60
4-24	2.80	2.80	3.08	3.00
7-10	"	2.60	2.88	2.60
7-17	2.60	"	"	"
1-8-35	"	"	"	2.80
4-23-35	"	"	2.895	"
1-7-36	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation was reported.

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TABLE 52

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF IRON AND STEEL PRODUCTS

Structural Shapes
(Base, cents per pound)

Date	Pitts-burgh	Chi-cago	B'ham	Beth-lehem	Cleve-land Del'd	Phila. Del'd	New York Del'd	Pacific Ports C. I. F.	Lacka-wanna	Gulf Ports F.o.b. Cars Docks
12-30-19	2.45	(*)	(*)	(*)	(*)	(*)	2.82	(*)	(*)	(*)
1-27-20	2.55	"	"	"	"	"	"	"	"	"
2-3-	2.70	"	"	"	"	"	2.97	"	"	"
3- 2	3.00	"	"	"	"	"	3.27	"	"	"
3-16	3.25	"	"	"	"	"	3.52	"	"	"
5- 4	3.10	"	"	"	"	"	3.27	"	"	"
8-24	"	"	"	"	"	"	3.37	"	"	"
8-31	"	"	"	"	"	"	3.48	"	"	"
10-19	3.00	"	"	"	"	"	"	"	"	"
11- 2	"	"	"	"	"	"	3.38	"	"	"
11-30	2.45	"	"	"	"	"	2.83	"	"	"
1-4-21	"	"	"	"	"	"	(*)	"	"	"
2-15	2.25	"	"	"	"	"	"	"	"	"
2-22	2.15	"	"	"	"	"	"	"	"	"
3- 1	2.00	"	"	"	"	"	"	"	"	"
4-19	2.20	"	"	"	"	"	"	"	"	"
6-28	2.00	"	"	"	"	"	"	"	"	"
7-26	1.85	"	"	"	"	"	"	"	"	"
8-16	1.80	"	"	"	"	"	"	"	"	"
8-30	1.75	"	"	"	"	"	"	"	"	"
9-13	1.70	"	"	"	"	"	"	"	"	"

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Date	Pitts-burgh	Chica-go	B'ham	Beth-lehem	Cleve-land Del'd	Phila-Del'd	New York Del'd	Pacific Ports C.I.F.	Lacka-wanna	Gulf Ports F.o.b. Cars Docks
9-20	1.60	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
10-18	1.50	"	"	"	"	"	"	"	"	"
2- 7-22	1.40	"	"	"	"	"	"	"	"	"
28	1.45	"	"	"	"	"	"	"	"	"
3-14	1.40	"	"	"	"	"	"	"	"	"
4-18	1.50	"	"	"	"	"	"	"	"	"
5-29	1.60	"	"	"	"	"	"	"	"	"
7- 3	1.70	"	"	"	"	"	"	"	"	"
8-15	1.80	"	"	"	"	"	"	"	"	"
8-29	2.00	"	"	"	"	"	"	"	"	"
1-16-23	2.10	"	"	"	"	"	"	"	"	"
2- 6	2.15	"	"	"	"	"	"	"	"	"
2-20	2.25	"	"	"	"	"	"	"	"	"
3-20	2.35	"	"	"	"	"	"	"	"	"
3-27	2.45	"	"	"	"	"	"	"	"	"
4-24	2.50	"	"	"	"	"	"	"	"	"
3-4-24	2.40	"	"	"	"	"	"	"	"	"
4-1	2.30	"	"	"	"	"	"	"	"	"
4-29	2.25	"	"	"	"	"	"	"	"	"
5-27	2.20	"	"	"	"	"	"	"	"	"
7-1	2.15	"	"	"	"	"	"	"	"	"
7-22	2.00	"	"	"	"	"	"	"	"	"
10-14-24	2.00	2.00	"	"	"	"	"	"	"	"
10-21	2.00	1.90	"	"	"	"	"	"	"	"
11- 4	2.10	"	"	"	"	"	"	"	"	"
12-29	"	2.20	"	"	"	"	"	"	"	"
1-27-25	"	2.30	"	"	"	"	"	"	"	"
4-21	2.00	2.20	"	"	"	"	"	"	"	"

Continued on following page.

Continued from previous page

Date	Pitts-burgh	Chica-go	B'ham	Beth-lehem	Cleveland-Del'd	Phila. Del'd	New York Del'd	Pacific Ports C.i.f.	Lacka-wanna	Gulf Ports F.o.b. Car Docks
6-30-25	2.00	2.10	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
8-18	1.90	"	"	"	"	"	"	"	"	"
11-10	"	"	2.05	"	2.09	2.12	2.14	2.30	"	"
11-17	"	"	"	"	"	"	2.24	"	"	"
11-24	"	"	"	"	"	"	"	2.25	"	"
12- 1	"	"	"	"	"	2.22	"	2.35	"	"
1- 5-26	"	"	"	"	"	"	"	"	"	"
3-16-26	"	"	"	"	"	2.12	"	"	"	"
3-23-26	"	"	1.95	"	"	"	"	"	"	"
4-20-26	"	"	2.05	"	"	"	"	"	"	"
4-27-	2.00	"	"	"	"	"	"	"	"	"
5- 4	"	"	2.00	"	"	"	2.14	"	"	"
6-1	"	"	2.05	"	"	"	"	2.30	"	"
6-15	"	"	"	"	"	2.22	2.24	"	"	"
7-27	"	"	2.15	"	2.19	"	"	"	"	"
8-3	"	"	"	"	"	"	"	2.35	"	"
8-17	"	"	"	"	"	"	"	2.30	"	"
8-24	"	"	"	"	"	"	2.34	"	"	"
10- 5	"	"	"	"	"	2.32	"	2.35	"	"
12-28	"	"	"	"	"	2.22	"	"	"	"
1-18-27	"	"	"	"	"	2.17	2.24	"	"	"
1-25-	1.90	"	"	"	2.09	"	"	"	"	"
2-1-	"	2.00	2.05	"	2.09	2.07	2.09	"	"	"
5-10	1.80	"	"	"	"	"	"	"	"	"
6-7	"	"	"	"	1.99	2.02	2.04	"	"	"
6-14	1.75	"	"	"	1.94	"	"	"	"	"
6-21	"	"	1.90	"	1.99	1.97	1.99	"	"	"

Continued on following page

Continued from previous page

Date	Pitts-burgh	Chica-go	B'ham	Beth-lehem	Cleve-land Del'd	Phila. Del'd	New York Del'd	Pacific Ports C.i.f.	Lacka-wanna	Gulf Ports F.o.b.Cars Docks
6-28-27	1.75	2.00	1.90	(*)	1.99	1.92	1.99	2.35	(*)	(*)
8- 9-	"	"	"	"	"	1.90	1.90	"	"	"
8-16	"	1.90	"	"	"	"	"	"	"	"
9-20	"	"	"	"	1.94	"	"	"	"	"
9-27	"	"	"	"	"	2.07	2.09	"	"	"
10-11	"	1.85	"	"	"	"	"	"	"	"
11-22	"	"	"	"	1.99	"	"	"	"	"
11-15	"	"	"	"	"	"	"	2.40	"	"
12- 6	1.80	1.90	1.95	"	"	2.12	2.14	"	"	"
12-13	"	"	"	"	"	2.08	2.09½	"	"	"
12-20	"	"	"	1.95	"	"	"	"	1.90#	"
12-27	"	"	"	"	"	"	"	2.35	"	"
1-24-28	"	"	2.00	"	"	"	"	"	"	"
1-31-	1.85	2.05	2.10	2.00	2.04	2.13	2.14½	"	1.95	"
2-7	"	1.95	"	"	"	"	"	"	"	"
2-28	"	"	2.05	"	"	2.12	"	"	"	"
3-20	"	2.00	"	"	"	"	"	"	"	"
5-22	"	"	"	"	"	2.06	"	"	"	"
7-17	"	"	"	"	"	2.01	"	"	"	"
10-2	1.90	"	2.15	2.05	"	2.11	2.19½	"	2.00	"
10-9	"	"	"	"	2.09	"	"	"	"	"
12-18	"	"	"	2.00	"	2.06	2.14½	"	"	"
2-19-29	"	2.05	"	"	"	"	"	"	"	"
2-26	"	"	"	"	"	2.01	"	"	"	"
3-26	"	"	"	"	2.14	"	"	"	"	"
4- 2	1.95	"	"	2.05	"	"	"	"	2.05	"
8-20	"	"	2.20	"	"	"	"	"	"	"

Continued on following page.

Continued from previous page

Date	Pitts-burgh	Chicago	B'ham	Beth-lehem	Cleve-land Del'd	Phila. Del'd	New York Del'd	Pacific Ports C.i.f.	Lacka-wanna	Gulf Ports F.o.b. Cars Docks
9-10-29	1.95	2.05	2.10	2.05	2.14	2.01	2.14½	2.35	2.05	(*)
9-24	1.90	"	"	"	"	"	"	"	"	"
10-1	"	"	"	"	"	1.96	"	"	"	"
10-22	"	2.00	"	"	"	"	"	"	"	"
10-29	"	"	"	"	2.09	"	"	"	"	"
11-19	"	"	"	1.95	"	"	2.04½	"	2.00	"
12-3	"	"	2.05	2.00	"	"	2.09½	"	"	"
1-4-30	1.80	"	"	1.95	2.04	"	"	"	1.95	"
1-21	"	"	"	1.90	"	1.86	2.04½	"	1.90	"
1-28	"	1.95	2.00	"	"	"	"	"	"	"
3-18	"	"	"	"	"	1.81	"	"	"	"
3-25	"	1.90	"	"	"	"	"	"	"	"
4-8	"	"	"	"	1.99	"	"	"	"	"
4-15	"	"	"	"	"	"	1.94½	"	"	"
4-29	"	"	"	"	1.94	"	"	"	"	"
5-6	1.75	1.85	"	1.80	"	"	"	"	1.85	"
5-13	"	"	1.95	"	1.89	"	"	"	"	"
5-20	1.70	1.80	"	"	1.88½	"	1.95½	"	1.80	"
6-3	"	"	"	"	"	"	1.90½	"	"	"
6-24	1.65	1.75	"	1.75	"	"	"	"	1.75	"
7-1	"	"	1.90	"	1.83½	1.76	"	2.25	"	"
7-22	"	"	"	"	"	1.66	"	2.15	"	"
7-29	"	"	"	"	"	"	"	2.25	"	"
8-5	"	"	"	"	"	"	1.85½	2.15	"	"
8-12	1.60	"	"	"	"	"	"	"	"	"
8-19	"	"	1.85	"	1.78½	"	"	"	"	"
8-26	"	"	"	1.65	"	"	1.80½	"	"	"

Continued from previous page

Date	Pitts-burgh	Chica-go	B'ham'	Beth-lehem	Cleve-land Del'd	Phila. Del'd	New York Del'd	Pacific Ports C.i.f.	Lacka-wanna	Gulf Ports F.o.b. Cars Docks
9-9-30	1.60	1.70	1.85	1.65	1.78½	1.66	1.80½	2.15	1.70	(*)
9-23	"	"	"	1.70	"	1.71	1.85½	"	"	"
9-30	"	"	1.80	"	"	"	"	"	"	"
11-11	"	"	1.75	"	"	"	"	"	"	"
1-13-31	1.65	"	1.80	1.75	1.83½	1.76	1.90½	"	1.75	"
1-27	"	1.75	"	"	"	"	"	"	"	"
2-10	"	1.70	"	"	"	"	"	"	"	"
2-17	"	"	"	"	1.78½	"	"	"	"	"
3-24	"	"	"	"	1.83½	"	"	"	"	"
4-7	"	1.75	"	"	"	"	"	"	"	"
5-5	"	1.70	"	"	"	"	"	"	"	"
6-16	"	"	"	"	"	"	"	2.05	"	"
6-23	"	"	1.70	"	"	"	"	"	"	"
7-14	"	"	"	"	1.78½	"	"	"	"	"
7-21	1.60	"	"	1.70	"	1.71	1.85½	"	1.70	"
11-17	"	"	"	"	"	1.69½	1.85¼	"	"	"
12-1	1.50	1.60	"	"	1.68½	1.64½	"	"	"	"
12-8	"	"	"	1.65	"	"	1.80¼	"	1.65	"
12-22	"	"	"	1.60	"	"	1.75¼	"	1.60	"
1-5-32	1.60	1.70	"	"	1.703	1.649	1.767	"	"	"
1-12	1.50	"	"	"	1.7035	1.5995	1.76775	"	"	"
2-16	"	1.60	"	"	"	"	"	"	"	"
3-8	"	1.70	"	"	"	"	"	2.10	"	"
3-29	1.60	"	1.75	1.70	1.8035	1.7495	1.86775	"	1.70	"
4-23-33	"	"	"	"	1.7035	"	"	"	"	"
5-9	"	"	"	"	1.8035	"	"	"	"	"

Continued on following page.

Continued from previous page

Date	Pitts-burgh	Chica-go	B'ham	Beth-lehem	Cleve-land Del'd	Phila. Del'd	New York Del'd	Pacific Ports C.i.f.	Lacka-wanna	Gulf Ports F.o.b. Cars Docks
8-1-33	1.60	1.70	1.75	1.70	1.8035	1.80175	1.86775	2.10	1.70	(*)
8-8	"	"	"	"	"	1.8155	"	"	"	"
8-29	"	1.65	"	"	"	"	"	"	1.70#	"
9-5	"	"	"	"	"	"	"	2.15	"	"
10-3	1.70	1.75	1.85	1.80	1.885	1.905	1.9525	2.25	1.80#	2.10
12-5	"	"	"	"	"	"	1.8525	"	"	"
1-9-34	"	"	"	"	"	"	1.9525	"	"	"
4-17	"	"	"	"	"	"	"	"	1.95#	2.25
4-24	"	"	"	"	2.035	2.055	2.1025	2.40	"	"
5-1	1.85	1.90	2.00	1.95	"	"	"	2.40	"	"
7-10	1.80	1.85	"	"	1.985	"	"	"	"	"
7-17	"	"	1.95	1.90	"	2.005	2.0525	2.35	1.90#	2.20
8-7	"	"	"	"	"	"	"	"	"	2.25
11-27	"	"	"	"	"	"	"	"	"	2.20
4-23-35	"	"	"	"	1.99795	"	2.063175	"	"	"
5-7	"	"	"	"	1.995	2.015	2.0625	"	"	"
1-7-36	"	"	"	"	"	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*) : No quotation was reported.
: F.o.b. Buffalo, New York.

TABLE 53

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF IRON AND STEEL PRODUCTS

Galvanized Sheets

(Base, cents per pound)

Date	Pitts-burgh	Date	Pitts-burgh	Chicago	Phila. Del'd
12-30-19	5.70	9-27-21	4.00	(*)	(*)
1-20-20	5.95	11-8	3.90	"	"
2- 3	6.50	11-15	3.75	"	"
3- 2	7.00	11-28	4.00	"	"
7-13	8.00	4-11-22	4.15	"	"
7-20-	9.00	8-15	4.35	"	"
9-28	8.50	2-27-23	4.60	"	"
10-8	8.25	3-20	5.00	"	"
10-26	8.00	11-6	4.90	"	"
11- 1	7.75	11-20	4.85	"	"
11- 9	7.50	12-11	4.90	"	"
11-16	7.25	1-15-24	5.00	"	"
11-23	6.70	3-11	4.90	"	"
11-30	6.00	4-15	4.80	"	"
12- 7	5.70	5-20	4.75	"	"
2-15-21	5.50	7-1	4-60	"	"
3- 1	5.25	22	4.50	"	"
3-15	5.00	8-18	4.60	"	"
4- 5	4.75	9- 9	4.55	"	"
4-12	4.60	9-16	4.50	"	"
4-19	5.00	10-14-24	4.50	4.70	"
6-28	4.75	11-25	4.50	4.80	"
7-5	4.50	12-2	4.60	4.85	"
7-19	4.25	12-9	4.75	"	"
7-26	4.00	3-10-25	4.65	"	"
8-23	3.75	4-17	4.60	"	"

Continued on the following page.

Continued from preceding page.

Date	Pitts-burgh	Chicago	Phila. Del'd.	Birmingham	Cleveland
3-31-25	4.50	4.70	(*)	(*)	(*)
4-21-	"	4.60	"	"	"
4-28-	4.40	"	"	"	"
5-5-	4.30	4.50	"	"	"
5-26	4.25	"	"	"	"
6- 9	"	4.35	"	"	"
6-21	4.15	4.25	"	"	"
7- 7	"	4.35	"	"	"
7-14	4.20	"	"	"	"
7-21	"	4.30	"	"	"
8-11	"	4.35	"	"	"
10-27	4.30	4.40	"	"	"
11-3	4.50	4.60	"	"	"
11-11	"	"	4.82	"	"
11-24	"	4.70	"	"	"
12-8	4.60	"	"	"	"
1 -5-26	"	"	"	"	"
1-26	"	"	4.92	"	"
4-20	4.50	"	"	"	"
4-27	"	3.35	"	"	"
5- 4	4.40	4.70	4.72	"	"
5-18	"	4.60	"	"	"
5-25	4.35	"	"	"	"
6 -1	4.30	"	"		
6-22	4.25	4.50	4.62	"	"
6-29	"	4.40	"	"	"
7-13	4.20	"	"	"	"
8-10	"	"	4.52	"	"
8-17	"	"	4.57	"	"
9- 7	4.25	"	4.62	"	"
9-14	3.85	3.95	4.17	"	"
10-19-26	"	4.05	"	4.15	"
1- 4-27	"	"	"	4.20	"
1-11-27	3.75	3.95	4.07	"	"
1-25	3.70	"	"	4.00	"
2- 1	"	3.85	"	"	"
2-15	3.65	"	3.97	"	"

Continued on the following page.

Continued from preceding page.

Date	Pitts-burgh	Chicago	Phila.	B'ham	Cleve-land	Pacific Ports Cif.
2-22-27	3.65	3.85	3.92	3.95	(*)	(*)
3- 8	3.60	"	"	"	"	"
3-15	3.70	"	4.02	3.90	"	"
4- 5	3.60	"	"	"	"	"
4-12	"	"	3.97	"	"	"
4-19	"	"	3.92	"	"	"
7-12	3.85	3.95	4.17	3.95	"	"
9-27	"	"	"	4.00	"	"
10-4	"	"	4.07	"	"	"
10-11	3.75	"	"	"	"	"
10-18	"	3.85	"	"	"	"
10-25	3.65	"	3.97	"	"	"
11- 8	"	"	"	3.95	"	"
11-15-27	"	3.80	"	"	3.74½	"
11-22		3.75	"	"	3.74	"
10-30	3.60	"	"	"	"	"
10- 6	"	3.70	"	"	"	"
12-13	"	"	"	"	3.79	"
12-27	3.65	"	"	3.90	3.74	"
1-3-28	"	"	"	"	3.84	"
1-10-28	"	3.85	"	"	"	"
2- 7-28	"	"	4.07	"	"	"
3-27	"	"	"	"	3.74	"
4-10	"	"	3.97	"	"	"
4-24	3.60	3.70	3.92	"	"	"
5-1	"	"	"	"	3.64	"
5-15	"	"	"	3.85	"	"
5-22	3.55	"	3.87	"	"	"
6- 5	3.50	"	3.82	3.80	"	"
6-19	"	3.60	"	"	"	"
6-26	"	"	"	"	3.54	"
7-10	"	"		3.70	"	"
7-24	3.40	"	3.72	"	"	"
7-31	"	"	"	3.65	"	"
9-11	"	"	"	"	3.59	"
10- 2	3.50	"	3.82	"	"	"
10-9	"	"	"	"	3.69	"

Continued on the following page.

Continued from preceding page.

Date	Pitts-burgh	Chicago	Phila.	B'ham	Cleve-land	Pacific Ports Cif.
11-27-28	3.50	3.60	3.82	3.75	3.69	(*)
12-11	3.60	3.70	3.92	"	"	"
12-18	"	"	"	"	3.79	"
3- 5-29	"	3.80	"	"	"	4.25
6-25	3.50	"	"	"	"	(*)
7-16	"	"	"	"	3.69	"
8-6	"	3.70	"	"	3.59	"
8-13	"	3.60	"	"	"	"
9-10	"	"	"	3.70	"	"
9-17	"	"	"	"	3.69	"
10- 1	"	"	3.82	"	3.59	"
10-15	"	"	"	3.75	"	"
10-29	3.40	"	"	"	"	"
11-19	"	3.50	3.72	"	"	"
12- 3	"	"	"	3.65	"	"
1-14-30	3.30	"	3.62	"	3.49	"
1-21	"	3.40	"	3.55	"	"
1-28	"	"	"	3.50	"	"
2-11	"	"	"	3.45	"	"
5-13	3.20	3.30	"	"	"	"
5-19	"	"	3.49	"	3.43½	"
5-27	"	"	"	3.40	"	"
6-10	"	"	"	3.35	"	"
6-24	3.15	3.25	3.44	"	"	"
7-1-30	"	"	"	"	3.33½	"
7-22	3.10	"	"	"	"	"
7-29-30	"	"	"	"	3.28½	"
8- 5	"	3.20	3.39	3.25	"	"
8-12	3.05	"	3.34	"	"	"
8-19	3.00	3.15	3.29	"	"	"
9-2	"	3.10	"	3.20	"	"
9-23	"	"	"	"	3.18½	"
9-30	"	"	"	3.15	"	"
10-28	"	"	3.24	"	"	"
11- 4	2.90	"	"	"	"	"
11-11	"	"	"	3.10	3.08½	"
11-25	"	"	"	3.15	"	"

Continued on following page.

Continued from preceding page.

Date	Pitts-burgh	Chi-cago	Phila.	B'ham	Cleve-land	Pacific Ports Cif.	Pitts. Wrought Iron
12-16-30	2.90	3.00	3.24	3.15	3.08½	(*)	(*)
2- 3-31	"	"	"	3.10	"	"	"
2-10	"	"	"	3.05	"	"	"
4- 7	2.80	2.90	"	3.00	"	3.50	"
4-21	"	"	"	2.80	"	"	"
4-28	"	"	"	"	2.98½	"	"
6-11	2.75	"	3.04	2.85	2.93½	"	"
6-18	"	2.85	"	"	"	"	"
6-30	2.90	3.00	3.19	3.05	(*)	3.38	"
12-22	2.80	2.90	3.09	2.95	"	"	"
1- 5-32	"	"	3.11	"	"	3.40	"
2- 9	2.75	2.85	3.06	"	"	"	"
3-29	2.85	2.95	3.16	3.00	"	3.45	"
8-16	"	"	"	"	"	3.50	"
9-27	2.75	2.85	3.06	2.90	"	"	"
10-18	2.85	2.95	3.16	3.00	"	"	"
12-27	"	"	"	"	"	"	4.95
1- 3-33	2.75	2.85	3.06	2.90	"	"	"
1-17	2.65	2.75	2.96	2.80	"	"	"
1-24	"	2.65	"	"	"	"	"
1-31	2.50	2.60	2.81	2.65	"	3.25	"
2-21	"	2.50	"	"	"	"	"
3-7	2.60	2.70	2.91	2.75	"	"	"
4-25	2.70	2.80	3.01	2.85	"	3.35	"
5-23	"	2.95	3.16	"	"	"	"
7-3	2.85	"	"	3.00	"	3.50	"
9-12	"	"	"	"	"	3.55	"
9-26	"	"	3.14	"	"	"	"
4-24-34	3.25	3.35	3.54	3.40	"	3.85	"
6-26	"	"	"	"	"	3.80	"
7-3	"	"	"	"	"	3.85	"
7-10-34	3.10	3.20	3.39	3.25	"	3.85	"
7-17	"	"	"	"	"	3.70	"
5-7-35	"	"	3.41	"	"	"	"
1-9-36	"	"	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation was reported.

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TABLE 54

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF IRON AND STEEL PRODUCTS

Skelp
(Cents per pound)

Date	Pittsburgh and Youngstown	Date	Pittsburgh and Youngstown	Chicago, Buffalo, Coatesville, Sparrows Point
12/30/19	2.45	4/29/24	2.25	(*)
1/13/20	2.65	5/27	2.20	"
1/20	2.45	7/1	2.15	"
3/2	2.75	8/ 5	2.00	"
7/20	3.25	10/21	1.90	"
11/20	3.00	12/ 9	2.00	"
12/21	2.65	2/ 3/25	2.10	"
1/11/21	2.45	4/ 7	2.00	"
3/ 1	2.35	6/ 7	1.90	"
3/29	2.25	5/24/27	1.80	"
4/ 5	2.10	9/20	1.75	"
4/19	2.20	11/23	1.80	"
6/21	2.00	2/ 7/28	1.85	"
7/18	1.85	10/ 2	1.90	"
8/23	1.80	3/ 5/29	1.85	"
8/30	1.75	12/31	1.80	"
9/ 6	1.70	5/27/30	1.70	"
9/20	1.65	10/ 7	1.60	"
9/27	1.60	3/10/31	1.65	"
11/29	1.50	7/21	1.60	"
2/28/22	1.40	12/15	1.55	"
4/11	1.50	12/22	1.50	"
5/16	1.60	5/ 3/32	1.60	"
5/23	1.70	9/ 5/33	"	1.60
8/ 8	1.80	4/24/34	1.70	1.70
8/15	2.00	12/ 1/35	1.80	1.80
1/30/23	2.10	1/ 7/36	"	"
2/13	2.20			
2/20	2.25			
3/20	2.35			
4/24	2.50			
5/15	2.45			
7/10	2.40			
11/20	2.35			
2/12/24	2.30			

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation was reported.

TABLE 56

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF IRON AND STEEL PRODUCTS

Tin Plate

(Dollars a base box)

Date	Pitts-burgh	Gary	Chicago Mills	Elwood, Ind.	Pacific Coast f.o.b. cars, dock
12/30/19	7.00	(*)	(*)	(*)	(*)
7/27/20	9.00	"	"	"	"
10/12	8.50	"	"	"	"
11/ 9	7.50	"	"	"	"
11/23	7.00	"	"	"	"
4/12/21	6.25	"	"	"	"
6/ 5	5.75	"	"	"	"
7/26	5.50	"	"	"	"
8/ 2	5.25	"	"	"	"
10/18	5.00	"	"	"	"
11/ 1	4.75	"	"	"	"
12/13	4.65	"	"	"	"
12/20	4.75	"	"	"	"
2/28/22	4.60	"	"	"	"
4/ 4	4.75	"	"	"	"
2/27/23	4.95	"	"	"	"
5/ 1	5.50	"	"	"	"
9/30/24	"	"	5.60	"	"
11/21	"	"	"	5.60	"
11/10/25	"	5.60	(*)	"	"
12/27/27	5.25	5.35	"	5.35	"
3/13/28	"	"	"	(*)	"
11/20	5.35	5.45	"	"	"
1/ 7/30	5.25	5.35	"	"	"
10/ 7	5.00	5.10	"	"	"
10/13/31	4.75	4.85	"	"	"
12/27/32	4.25	4.35	"	"	"
9/ 5/33	4.65	4.75	"	"	"
12/ 5	5.25	5.35	"	"	5.90
1/ 7/36	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation was reported.

TABLE 56

COMPARATIVE GEOGRAPHICAL PRICE MOVEMENTS OF IRON AND STEEL PRODUCTS

Wire Rods
(common soft)
(Base, dollars per gross ton)

Date	Pittsburgh	Youngstown	Cleveland	Chicago
12/30/19	60.00	(*)	(*)	(*)
2/10/20	65.00	"	"	"
3/ 2	70.00	"	"	"
5/18	75.00	"	"	"
11/ 2	70.00	"	"	"
11/23	65.00	"	"	"
11/30	57.00	"	"	"
2/15/21	52.00	"	"	"
4/12	48.00	"	"	"
6/ 5	45.00	"	"	"
7/12	43.00	"	"	"
7/19	42.00	"	"	"
8/30	40.00	"	"	"
9/ 6	38.00	"	"	"
9/20	41.00	"	"	"
10/18	40.00	"	"	"
12/ 6	38.00	"	"	"
1/ 3/22	36.00	"	"	"
2/21	35.00	"	"	"
2/28	36.00	"	"	"
4/11	38.00	"	"	"
6/27	40.00	"	"	"
8/15	42.00	"	"	"
8/22	45.00	"	"	"
9/12	47.50	"	"	"
9/26	45.00	"	"	"
1/ 2/23	"	45.00	"	"
1/ 9	47.50	47.50	"	"
2/15	50.00	50.00	"	"
5/13/24	48.00	48.00	"	"
8/12	46.00	46.00	"	"
10/14	45.00	45.00	"	"
12/ 2	48.00	48.00	"	"
12/29	"	"	48.00	50.00
4/21/25	46.00	46.00	"	"
4/28	"	"	46.00	"
6/23	45.00	45.00	47.00	45.00
7/28	"	"	45.00	46.00

(continued on the following page)

(continued from the preceding page)

Date	Pitts-burgh	Youngs-town	Cleve-land	Chi-cago	Birm-ing-ham	An-der-son, Ind.	Wor-cester	San Fran-cis-co	Galves-ton
2/ 1/27	43.00	43.00	43.00	(*)	(*)	(*)	(*)	(*)	(*)
2/ 8	"	"	"	44.00	"	"	"	"	"
4/12	40.00	40.00	"	"	"	"	"	"	"
4/19	"	"	"	43.00	"	"	"	"	"
4/26	42.00	42.00	"	"	"	"	"	"	"
5/ 3	"	"	42.00	42.50	"	"	"	"	"
7/12	43.00	43.00	"	"	"	"	"	"	"
7/19	42.00	42.00	"	"	"	"	"	"	"
7/26	43.00	43.00	43.00	44.00	"	"	"	"	"
9/13	"	"	42.00	"	"	"	"	"	"
9/27	"	"	"	43.00	"	"	"	"	"
10/18	"	"	40.00	"	"	"	"	"	"
10/24	41.00	41.00	"	42.00	"	"	"	"	"
11/15	40.00	40.00	"	"	"	"	"	"	"
1/ 3/28	"	"	42.00	"	"	"	"	"	"
1/10	42.00	42.00	"	43.00	"	"	"	"	"
2/ 7	"	"	44.00	45.00	"	"	"	"	"
2/21	44.00	44.00	"	"	"	"	"	"	"
5/ 8	42.00	42.00	"	"	"	"	"	"	"
6/26	"	"	43.00	44.00	"	"	"	"	"
7/10	"	"	42.00	43.00	"	"	"	"	"
1/ 1/29	"	(*)	"	"	"	"	"	"	"
9/24	"	"	40.00	41.00	"	"	"	"	"
10/ 1	40.00	"	"	"	"	"	"	"	"
2/27/30	38.00	"	38.00	39.00	"	"	"	"	"
5/ 6	36.00	"	36.00	37.00	"	"	"	"	"
12/ 9	35.00	"	35.00	36.00	"	"	"	"	"
12/29/31	37.00	"	37.00	38.00	"	"	"	"	"
1/24/33	35.00	" [a]	35.00	36.00	"	"	"	"	"
9/ 5/	"	36.00/[a]	"	"	38.00	"	"	"	"
12/ 5	36.00	37.00/[a]	36.00	37.00	39.00	"	"	"	"
4/24/34	38.00	39.00/[a]	38.00	39.00	41.00	"	"	"	"
6/12	"	39.00	"	"	"	39.00	40.00	47.00	44.00
11/26/35	40.00	41.00	40.00	41.00	43.00	41.00	42.00	49.00	46.00
1/ 9/36	"	"	"	"	"	"	"	"	"

Source: Compiled from weekly quotations in the Iron Age.
Note: Only quotations which represent a change from the preceding price are shown.
(*): No quotation was reported.
[a] /: Delivered price.

TABLE 87

PRICES OF MAJOR ROLLED AND FURTHER FINISHED PRODUCTS: 1919-1935
(Annual Averages)

Year	Billets		Sheet Bars		Galvanized Sheets No. 24		HotRolled Annealed Sheets		Hot Rolled Strips		Cold Rolled Strips		Tin Plate		Wire Rods		Plain Wire		Wire Nails		Skelp		Standard Steel Pipe		Structural Shapes		Plates		Soft Steel Bars	
	1/	2/	1/	2/	3/	2/	3/	2/	3/	2/	3/	2/	4/	2/	1/	2/	3/	2/	5/	2/	1/	2/	1/	2/	3/	2/	3/	2/	3/	2/
1919	$40.54	116			5.78¢	148	4.43¢	150	3.26¢	142	5.81¢	161	$7.08	129	$53.98	120	3.11¢	115	$3.41	129			$78.31	111	2.52¢	139	2.72¢	145	2.50¢	125
1920	56.43	161	65.77	183	7.24	186	5.83	198	4.95	216	7.76	216	7.53	137	69.55	154	3.53	141	4.09	155	57.80	152	83.13	118	2.95	151	3.28	175	3.22	161
1921	34.36	98	36.18	100	4.58	118	3.50	119	2.49	108	4.73	131	5.90	107	45.94	102	2.78	110	2.96	112	39.80	105	66.14	94	1.94	100	1.93	103	1.87	94
1922	33.90	97	34.36	95	4.20	108	3.19	108	2.38	103	3.97	110	4.73	86	40.49	90	2.31	92	2.51	95	34.60	91	54.69	78	1.71	88	1.72	91	1.72	86
1923	41.75	119	42.30	117	4.92	126	3.73	126	3.04	132	4.98	138	5.42	99	50.39	112	2.70	108	2.94	111	47.00	124	68.71	98	2.43	125	2.43	129	2.36	118
1924	37.99	108	39.69	110	4.75	122	3.60	122	2.57	112	4.39	122	5.50	100	48.31	107	2.64	105	2.89	109	42.80	113	70.30	100	2.19	112	2.12	113	2.20	110
1925	35.45	102	36.00	100	4.42	114	3.28	111	2.27	99	3.85	107	5.50	100	46.05	102	2.52	101	2.72	103	39.20	103	70.30	100	1.99	102	1.91	102	2.02	101
1926	35.00	100	36.00	100	3.89	100	2.95	100	2.30	100	3.60	100	5.50	100	45.00	100	2.50	100	2.65	100	38.00	100	70.30	100	1.95	100	1.88	100	2.00	100
1927	33.87	95	34.25	95	3.75	96	2.88	98	2.26	99	3.05	85	5.48	100	42.44	94	2.41	96	2.54	96	36.60	96	69.57	98	1.83	94	1.82	97	1.84	92
1928	32.67	94	33.13	92	3.54	91	2.75	93	1.93	84	2.92	81	5.25	95	42.55	95	2.45	98	2.58	97	37.20	98	69.84	99	1.87	96	1.87	100	1.87	94
1929	34.66	99	34.98	97	3.55	91	2.83	96	1.88	82	2.77	77	5.35	97	41.50	92	2.46	98	2.57	97	37.20	98	70.30	100	1.92	98	1.93	103	1.92	96
1930	31.84	91	31.85	89	3.14	81	2.50	85	1.68	73	2.46	68	5.19	94	36.91	82	2.33	93	2.10	79	34.40	91	67.45	96	1.69	87	1.69	90	1.71	86
1931	29.36	84	29.38	82	2.87	74	2.33	79	1.54	67	2.16	60	4.94	90	35.03	78	2.20	88	1.88	71	32.20	85	65.29	93	1.62	83	1.62	86	1.63	82
1932	26.52	76	26.12	72	2.83	73	2.17	74	1.43	62	1.97	55	4.69	85	37.00	82	2.20	88	1.95	74	31.40	83	64.89	92	1.57	81	1.57	84	1.57	79
1933	26.00	74	26.00	72	2.74	70	2.14	72	1.58	69	2.03	58	4.43	81	35.15	78	2.11	84	1.99	75	32.00	84	61.63	88	1.68	87	1.61	86	1.64	82
1934	27.10	77	27.78	77	3.05	78	2.41	82	1.85	80	2.58	72	5.25	95	37.37	83	2.27	91	2.52	95	33.40	88	66.32	94	1.78	91	1.78	95	1.81	91
1935	27.17	77	28.29	79	3.10	80	2.40	82	1.85	80	2.80	72	5.25	95	38.21	85	2.30	92	2.40	91	34.20	90	68.40	97	1.80	92	1.80	96	1.81	91

Source: Actual prices, the Iron Age, Index compiled by National Recovery Administration.

1/ Dollars per gross ton
2/ Index, 1926 = 100
3/ Cents per pound
4/ Dollars per base box
5/ Dollars per 100 pounds

TABLE 58

Composite Finished Steel Products

Price
dollars per gross ton and cents per pound.

Year	January	February	March	April	May	June	July	August	September	October	November	December	Average
1919	80.19 3.58	80.19 3.58	77.73 3.47	72.80 3.25	72.80 3.25	72.80 3.25	72.80 3.25	72.80 3.25	72.13 3.22	72.35 3.23	72.80 3.25	72.80 3.25	74.37 3.32
1920	75.04 3.35	80.19 3.58	84.67 3.78	84.45 3.77	83.10 3.71	82.21 3.67	82.88 3.70	85.12 3.80	85.12 3.80	82.21 3.67	78.40 3.50	73.47 3.28	81.31 3.63
1921	72.80 3.25	69.44 3.10	65.86 2.94	65.63 2.92	65.63 2.92	63.39 2.83	58.91 2.63	55.55 2.48	53.09 2.37	51.74 2.31	51.07 2.28	49.95 2.23	60.26 2.69
1922	48.38 2.16	47.94 2.14	46.82 2.09	48.38 2.16	48.83 2.18	49.73 2.22	49.95 2.23	52.86 2.36	56.22 2.51	57.57 3.57	57.57 3.57	57.57 3.57	51.74 2.31
1923	58.02 2.59	60.93 2.72	63.39 2.83	66.98 2.99	67.87 3.03	67.87 3.03	67.87 3.03	67.87 3.03	67.87 3.03	67.65 3.02	67.65 3.02	67.65 3.02	66.30 2.96
1924	67. 87 3.03	67.87 3.03	67.20 3.00	65.86 2.94	64.06 2.86	63.62 2.84	62.94 2.81	61.82 2.76	60.93 2.71	60.03 2.68	60.03 2.68	61.60 2.75	63.62 2.84
1925	62.05 2.77	63.39 2.83	61.82 2.76	61.15 2.73	60.26 2.69	59.36 2.65	58.91 2.63	58.46 2.61	58.46 2.61	58.46 2.61	58.91 2.63	59.36 2.65	60.03 2.68
1926	59.36 2.65	58.91 2.63	58.91 2.63	59.14 2.64	58.46 2.61	58.69 2.62	59.14 2.64	59.14 2.64	59.14 2.64	59.36 2.65	59.36 2.65	59.36 2.65	59.14 2.64
1927	58.69 2.62	57.34 2.56	57.12 2.55	57.12 2.55	56.90 2.54	56.90 2.54	56.67 2.53	56.67 2.53	56.22 2.51	55.55 2.48	55.33 2.47	55.10 2.46	56.67 2.53
1928	55.33 2.47	56.45 2.52	56.90 2.54	56.22 2.51	55.78 2.49	55.55 2.48	55.55 2.48	55.55 2.48	56.00 2.50	56.45 2.52	56.45 2.52	56.67 2.53	56.00 2.50
1929	57.12 2.55	57.12 2.55	57.12 2.55	57.34 2.56	57.34 2.56	57.34 2.56	57.34 2.56	57.12 2.55	56.90 2.54	56.22 2.51	56.00 2.50	56.00 2.50	56.90 2.54
1930	55.10 2.46	54.43 2.43	54.43 2.43	53.54 2.39	52.64 2.35	52.19 2.33	51.30 2.29	50.62 2.26	50.18 2.24	49.73 2.22	49.28 2.20	49.06 2.19	51.97 2.32
1931	49.73 2.22	49.73 2.22	49.95 2.23	49.73 2.22	49.50 2.21	49.06 2.19	49.28 2.20	49.06 2.19	49.28 2.20	48.83 2.18	48.83 2.18	48.38 2.16	49.28 2.20
1932	47.26 2.11	47.26 2.11	48.61 2.17	48.61 2.17	48.61 2.17	48.61 2.17	48.61 2.17	48.61 2.17	48.38 2.16	48.38 2.16	48.16 2.15	47.94 2.14	48.16 2.15
1933	47.49 2.12	47.04 2.10	47.04 2.10	46.16 2.06	46.59 2.08	46.82 2.09	48.61 2.17	48.61 2.17	49.28 2.20	50.62 2.26	50.62 2.26	51.74 2.31	48.38 2.16
1934	51.74 2.31	51.74 2.31	51.74 2.31	53.76 2.40	56.67 2.53	56.67 2.53	55.10 2.46	54.66 2.44	54.66 2.44	54.66 2.44	54.66 2.44	54.66 2.44	54.21 2.42
1935	54.66 2. 44	54.66 2.44	54.66 2.44	54.66 2.44	54.66 2.44	54.66 2.44	54.66 2.44	54.43 2.43	54.43 2.43	54.43 2.43	54.43 2.43	54.43 2.43	54.56 2.44

NOTE: The daily average price per pound of steel products weighted as follows: 2-1/2 pound ~~basic~~ bars, 1-1/2 pound plates, 1-1/2 pound shapes, 1-1/2 pound pipe, 1-1/2 pound wire nails, 1 pound galvanized sheets and 1-1/2 pound tin plates.

SOURCE: American Metal Market reported by the Survey of Current Business, Department of Commerce.

The prices in dollars per gross ton, computed by N.R.A.

TABLE 59

NO. 1 HEAVY MELTING STEEL SCRAP
COMPOSITE PRICE
(Dollars per gross ton)
Monthly Average

Year	Jan.	Feb.	Mch.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Avg.
1919	17.77	14.75	14.52	15.79	15.06	16.54	19.13	20.35	18.87	18.67	20.50	22.77	17.89
1920	25.13	26.00	25.50	24.42	23.71	23.47	24.21	25.88	26.53	23.73	20.00	15.92	23.71
1921	14.04	15.21	13.17	11.63	12.20	11.47	11.00	11.57	12.15	12.88	12.73	12.29	12.61
1922	12.45	12.46	13.46	14.71	15.67	15.52	15.92	16.30	18.33	19.20	18.02	17.94	15.83
1923	20.22	21.46	24.79	24.00	20.77	18.94	17.23	16.58	16.98	15.15	15.13	17.37	19.03
1924	19.15	19.21	17.56	15.20	14.71	14.88	16.00	16.58	17.20	17.08	18.17	20.08	17.15
1925	20.10	18.27	16.92	15.48	15.46	16.09	16.46	17.23	17.42	17.08	17.63	17.37	17.12
1926	16.97	15.50	15.83	15.27	14.35	14.40	15.42	15.88	16.25	15.58	15.25	15.08	15.48
1927	15.17	14.58	14.65	14.71	13.95	13.60	13.48	13.80	13.92	13.48	13.18	13.48	14.00
1928	13.70	13.71	13.65	13.81	13.90	13.52	13.13	13.75	14.75	15.85	15.97	15.97	14.29
1929	17.02	16.96	16.71	17.18	16.54	16.39	16.60	16.86	16.60	15.78	14.15	14.15	16.30
1930	14.65	14.92	14.88	14.30	13.71	13.31	13.08	13.29	13.70	12.77	11.28	11.28	13.45
1931	11.30	11.15	11.10	10.83	9.94	9.39	9.25	9.25	9.12	8.78	8.61	8.61	9.79
1932	8.41	8.27	8.23	8.12	8.48	6.89	6.46	6.93	7.69	7.62	7.45	6.92	7.54
1933	6.77	6.83	6.96	7.73	9.70	9.77	11.27	12.08	11.35	10.56	9.94	10.50	9.47
1934	11.73	12.25	12.82	11.57	11.57	10.67	10.53	10.13	9.63	9.54	10.04	11.43	11.07
1935	12.18	11.98	11.06	10.70	10.70	10.74	10.96	12.25	12.71	12.67	12.90	13.33	11.83

SOURCE: IRON AGE

TABLE 60

COMPOSITE PIG IRON PRICE (IRON AGE)
MONTHLY AVERAGE
(DOLLARS PER GROSS TON)

YEAR	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aug.
1919	31.36	31.36	30.10	27.11	26.91	26.46	26.37	26.83	27.11	27.52	30.34	36.13	28.97
1920	39.39	42.35	42.24	43.01	43.64	44.09	45.44	47.38	47.83	45.05	38.65	34.51	42.76
1921	31.18	28.45	25.18	23.73	22.78	21.73	20.22	18.97	19.89	19.97	19.79	19.11	22.58
1922	18.48	18.14	18.35	20.00	23.35	23.95	23.86	26.69	31.78	30.57	27.82	25.70	24.06
1923	26.78	27.20	30.11	30.83	29.74	28.23	25.96	25.19	25.02	23.30	21.40	21.88	26.30
1924	22.15	22.84	22.81	22.31	21.40	20.27	19.31	19.40	19.46	19.46	19.79	21.60	20.90
1925	22.44	22.50	21.99	20.95	19.85	19.22	18.96	19.01	19.39	19.92	21.16	21.54	20.58
1926	21.79	21.77	21.65	20.96	20.69	20.00	19.51	19.46	19.46	19.69	20.13	19.94	20.42
1927	19.44	19.07	19.03	19.21	19.09	18.92	18.56	18.17	18.03	17.96	17.59	17.55	18.55
1928	17.63	17.73	17.73	17.67	17.45	17.23	17.10	17.11	17.54	17.94	18.46	18.51	17.68
1929	18.43	18.38	18.36	18.52	18.70	18.65	18.48	18.39	18.27	18.33	18.36	18.24	18.43
1930	18.19	18.02	17.75	17.73	17.60	17.48	17.16	16.90	16.70	16.31	16.21	15.95	17.17
1931	15.90	15.80	15.71	15.79	15.76	15.62	15.56	15.51	15.44	15.21	14.97	14.86	15.51
1932	14.68	14.51	14.45	14.35	14.12	14.01	13.76	13.69	13.64	13.63	13.59	13.56	14.00
1933	13.56	13.56	13.56	13.76	14.48	15.01	15.50	16.09	16.71	16.61	16.61	16.90	15.20
1934	16.90	16.90	16.90	17.07	17.90	17.90	17.90	17.90	17.90	17.90	17.90	17.90	17.58
1935	17.90	17.90	17.90	17.90	17.84	17.84	17.84	17.84	17.84	17.87	18.84	18.84	18.03

TABLE 61
GENERAL PRICE LEVEL
INDEX - 1926=100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.
1919	134.4	129.8	131.3	133.0	135.3	135.6	141.1	144.3	141.1	141.6	144.5	150.5	138.6
1920	157.7	157.1	158.6	165.5	167.2	166.5	165.8	161.4	155.2	144.2	133.4	120.7	154.4
1921	114.0	104.9	102.4	98.9	98.2	93.4	93.4	93.5	93.4	94.1	94.2	98.9	97.6
1922	91.4	92.9	92.8	93.2	96.1	96.3	99.4	98.6	99.3	99.6	100.5	100.7	96.7
1923	102.0	102.3	104.5	103.9	101.9	100.3	98.4	97.8	99.7	99.4	98.4	98.1	100.6
1924	99.6	99.7	98.5	97.3	95.9	94.9	95.6	97.0	97.1	98.2	99.1	101.5	98.1
1925	102.9	104.0	104.2	101.9	101.6	103.0	104.3	103.9	103.4	103.6	104.5	103.4	103.5
1926	103.2	102.0	100.6	100.3	100.5	100.4	99.5	99.1	99.7	99.4	98.4	97.9	100.0
1927	96.5	95.8	94.7	94.1	94.2	94.1	94.3	95.2	96.2	96.6	96.3	96.4	95.4
1928	96.4	95.8	95.5	96.6	97.5	96.7	97.4	97.6	98.6	96.7	95.8	95.8	96.7
1929	95.9	95.4	96.1	95.5	94.7	95.2	96.5	96.3	96.1	95.1	93.5	93.3	95.3
1930	92.5	91.4	90.2	90.0	88.8	86.8	84.4	84.3	84.4	83.0	81.3	79.6	86.4
1931	78.2	76.8	76.0	74.8	73.2	72.1	73.0	72.1	71.2	70.3	70.2	68.6	73.0
1932	67.3	66.3	66.0	65.5	64.4	63.9	64.5	65.2	65.3	64.4	63.9	62.6	64.8
1933	61.0	59.8	60.2	60.4	62.7	65.0	68.9	69.8	70.8	71.2	71.1	70.8	65.9
1934	72.2	73.6	73.7	73.3	73.7	74.6	74.8	76.4	77.6	76.5	76.5	76.9	75.0
1935	78.8	78.5	79.4	80.1	80.2	79.8	79.4	80.8	80.7	80.5	80.6	80.9	80.0

Source: Bureau of Labor Statistics

TABLE 62

FINISHED PRODUCTS

Price Index 1926 - 100

Year	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Average
1919	128.5	123.8	125.5	125.4	126.2	126.6	130.3	134.7	133.8	133.8	135.8	141.6	130.6
1920	148.5	150.5	152.3	157.2	157.8	156.7	157.7	156.5	152.1	144.3	136.2	126.5	149.8
1921	119.2	111.7	110.1	107.4	103.1	100.7	99.4	98.7	97.9	97.8	97.5	95.2	103.3
1922	92.4	92.6	93.6	94.3	96.2	97.5	97.9	96.7	98.0	99.4	99.7	99.6	96.5
1923	100.1	101.1	102.4	102.4	101.0	99.7	98.2	97.2	98.3	97.8	96.5	96.2	99.2
1924	98.2	98.3	97.3	95.9	95.2	94.5	94.1	95.0	95.5	95.9	96.8	99.0	96.3
1925	99.1	100.4	100.9	99.8	99.6	100.5	100.1	100.8	100.3	101.3	102.1	101.4	100.6
1926	101.8	101.1	100.4	100.2	100.7	100.9	99.9	99.6	99.8	99.3	98.5	98.3	100.0
1927	96.2	95.9	95.1	94.7	94.4	94.2	94.3	94.2	94.7	95.6	95.3	95.3	95.0
1928	94.8	94.5	94.4	95.2	96.0	95.7	96.4	97.3	98.3	96.8	95.9	95.2	95.9
1929	94.7	94.3	94.8	95.0	94.6	95.0	95.6	95.2	95.0	94.2	92.9	92.7	94.5
1930	92.1	91.5	90.9	90.7	90.1	88.4	86.6	86.2	86.4	85.4	84.1	82.8	88.0
1931	81.5	80.3	79.6	78.3	76.9	76.0	76.1	76.4	75.9	75.1	74.8	73.3	77.0
1932	72.1	71.4	71.5	71.1	70.3	70.0	70.5	70.7	70.4	69.5	69.3	68.4	70.3
1933	66.7	65.7	65.7	65.7	67.2	69.0	72.2	73.4	74.8	75.4	75.2	74.8	70.5
1934	76.0	77.0	77.2	77.1	77.8	78.2	78.2	79.2	80.1	79.2	79.3	79.5	78.2
1935	80.8	81.5	81.7	82.3	82.4	82.2	82.0	83.0	83.1	82.7	82.7	83.1	82.3

SOURCE: Bureau of Labor Statistics.

TABLE 63

COMPOSITE FINISHED STEEL PRICES

Index: 1926=100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1919	135.6	135.6	131.4	123.1	123.1	123.1	123.1	123.1	122.0	122.3	123.1	123.1	125.8
1920	126.9	135.6	143.2	142.8	140.5	139.0	140.2	143.9	143.9	139.0	132.8	124.2	137.5
1921	123.1	117.4	111.4	111.0	111.0	107.2	99.6	93.9	89.8	87.5	87.5	84.5	101.9
1922	81.8	81.1	79.2	81.8	82.6	84.1	84.5	89.4	95.1	97.3	97.3	97.3	87.5
1923	98.1	103.0	107.2	113.3	114.8	114.8	114.8	114.8	114.8	114.4	114.4	114.4	112.1
1924	114.8	114.8	113.6	111.4	108.3	107.6	106.4	104.5	103.0	101.5	101.5	104.2	107.6
1925	104.9	107.2	104.5	103.4	101.9	100.4	99.6	98.9	98.9	98.9	99.6	100.4	101.5
1926	100.4	99.6	99.6	100.0	98.9	99.2	100.0	100.0	100.0	100.4	100.4	100.4	100.0
1927	99.2	97.0	96.6	96.6	96.2	96.2	95.8	95.8	95.1	93.9	93.6	93.2	95.8
1928	93.6	95.5	96.2	95.1	94.3	93.9	93.9	93.9	94.7	95.5	95.5	95.8	94.7
1929	96.6	96.6	96.6	97.0	97.0	97.0	97.0	96.6	96.2	95.1	94.7	94.7	96.2
1930	93.2	92.0	92.0	90.5	89.0	88.3	86.7	85.6	84.8	84.1	83.3	83.0	87.9
1931	84.1	84.1	84.5	84.1	83.7	83.0	83.3	83.0	83.3	82.6	82.6	81.8	83.3
1932	80.0	80.0	82.2	82.2	82.2	82.2	82.2	82.2	81.8	81.8	81.4	81.1	81.4
1933	80.3	79.5	79.5	78.0	78.8	79.2	82.2	82.2	83.3	85.6	85.6	87.5	81.8
1934	87.5	87.5	87.5	90.9	95.8	95.8	93.2	92.4	92.4	92.4	92.4	92.4	91.7
1935	92.4	92.4	92.4	92.4	92.4	92.4	92.4	92.0	92.0	92.0	92.0	92.0	92.4

Source: Computed by N.R.A. from American Metal Market. See Table No. 58

TABLE 64

Iron in pigs: Cost of production in the United States of foundry iron by producing districts for the 18-month period, January 1, 1929, to June 30, 1930 (per long ton)

Item	Eastern	Buffalo	Alabama	Midwestern
Materials:				
Metallic mixture	$8.23	$8.20	$5.68	$8.70
Fuel	5.90	6.21	3.06	4.04
Flux	.47	.54	.12	.48
Total materials	14.60	14.95	8.86	13.22
Labor and expense:				
Direct labor	.57	.42	.59	.55
Relining expense	.40	.31	.32	.31
Other plant expense	1.83	2.09	1.70	1.77
Total labor and expense	2.80	2.82	2.61	2.63
Total Plant cost	17.40	17.77	11.47	15.85
By-product credits	.89	.60	.52	.95
Net plant cost	16.51	17.17	10.95	14.90
Overhead	1.46	1.47	1.96	1.16
Total cost excluding interest	17.97	18.64	12.91	16.06
Interest	.95	.84	.40	.62
Total cost including interest	18.92	19.48	13.31	16.68
Selling expense	.25	.27	.11	.36
Production costed (long tons)	789,282	666,180	1,788,232	952,977
Total production (long tons)	789,282	910,546	1,993,651	2,438,952
Per cent of total production costed	100.00	73.16	89.69	39.07

Source: United States Tariff Commission, Report to the President on Iron In Pigs and Iron Kentledge, Report No. 23, Second Series, (p. 14)

TABLE 66

- PIG IRON -
SUMMARY OF COSTS OF PRODUCTION IN THE UNITED STATES
BY GRADES AND DISTRICTS, PER LONG TON, 1924

Grade	District				
	Eastern	Buffalo	Alabama	Western	Weighted average
Foundry and malleable.....	$25.17	$22.17	$19.39	$21.50	$21.63
Merchant plants	26.09	22.56	21.51	21.89	23.05
Integrated plants.....	22.94	20.04	17.67	20.09	20.34
Basic.....	20.73 a/	17.82	b/11.35	21.67	20.79
Basic, foundry and malleable.	22.47	21.32	16.21	21.64	21.03
Bessemer	-	-	-	-	b/c/18.88
Low-phosphorus.....	-	-	-	-	c/29.71

Source: 1927 Report - United States Tariff Commission, Iron in Pigs, dated February 2, 1927, page 15.

a/ Does not include overhead or interest.
b/ Costs can not be shown by districts without revealing confidential information.
c/ Does not include interest.

TABLE 66

- IRON IN PIGS -
MANUFACTURING AND TRANSPORTATION COSTS OF FOUNDRY AND MALLEABLE IRON PLUS COSTS OF MOVING TO PHILADELPHIA, NEW YORK, AND BOSTON, "PER LONG TON", 1924

Item	Domestic iron in pigs			
	Eastern	Buffalo	Alabama	Western
Domestic cost, f.o.b. plant...	$25.17	$22.17	$19.39	$21.50
Transportation and other charges to Philadelphia a/.....	b/1.25	4.91	6.01	c/5.27
Total cost or price delivered in Philadelphia	26.42	27.08	25.40	26.77
Transportation and other charges to New York a/	b/2.61	4.91	9.24	c/5.72
Total cost or price delivered in New York...	27.78	27.08	28.63	27.22
Transportation and other charges to Boston a/	b/3.65	4.91	6.91	c/6.17
Total cost or price delivered in Boston	28.82	27.08	26.30	27.67

Source: Compiled from 1927 Report - United States Tariff Commission, Iron in Pigs, dated February 2, 1927, page 23.

a/ Transportation includes all freight from point of manufacture to United States port. Other charges include consular fee, brokerage fee, transshipment and insurance.
b/ Average of rates from Swedeland, Robesonia, and Reading.
c/ Average of rates from Youngstown and Pittsburgh.

TABLE 67

INDUSTRY POSITION AND LOCATION OF PLANTS OF THE TEN LARGEST PORTLAND CEMENT COMPANIES IN THE UNITED STATES

Company	Rated Capacity in Barrels	Percentage of Total Industry Capacity
1. Universal-Atlas Cement Company Universal, Pennsylvania Buffington, Indiana Steelton, Minnesota Northampton, Pennsylvania Hannibal, Missouri Hudson, New York Independence, Kansas Leeds, Alabama Waco, Texas	35,300,000	11.8
2. Lehigh Portland Cement Company Ormrod, Pennsylvania West Coplay, Pennsylvania Fogelsville, Pennsylvania Bath, Pennsylvania Sandt's Eddy, Pennsylvania New Castle, Pennsylvania Union Bridge, Maryland Fordwick, Virginia Birmingham, Alabama Mitchell, Indiana Oglesby, Illinois Mason City, Iowa Iola, Kansas Metaline Falls, Washington Buffalo, New York ($\frac{1}{2}$ interest in Great Lakes Portland Cement Company - total output of plant sold as "Lehigh")	27,700,000	10.7

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TABLE 67

	Company	Rated Capacity in Barrels	Percentage of Total Industry Capacity
3.	International Cement Corporation (owns plants in Cuba and South America also holding company for Lone Star plants in U. S.) Lone Star Cement Corporation Spocari, Alabama Birmingham, Alabama New Orleans, Louisiana Nazareth, Pennsylvania Norfolk, Virginia Bonner Springs, Kansas Lone Star Cement Company, Indiana, Inc. Limedale, Indiana Lone Star Cement Company, New York, Inc. Hudson, New York Lone Star Cement Company, Texas Harrys, Texas (Dallas) Houston, Texas	18,000,000	9.1
4.	Alpha Portland Cement Company Martins Creek, Pennsylvania Manheim, West Virginia Birmingham, Alabama Ironton, Ohio St. Louis, Missouri Bellevue, Michigan LaSalle, Illinois Jamesville, New York Catskill, New York	13,000,000	4.4
5.	Pennsylvania Dixie Cement Corporation Nazareth, Pennsylvania Bath, Pennsylvania Kingsport, Tennessee Richard City, Tennessee Clinchfield, Georgia Portland Point, New York Valley Junction, Iowa	12,200,000	4.2

TABLE 67

	Company	Rated Capacity in Barrels	Percentage of Total Industry Capacity
6.	Ideal Cement Company (Holding Company) Colorado Portland Cement Company Portland, Colorado Boettcher, Colorado Arkansas Portland Cement Company Okay, Arkansas Oklahoma Portland Cement Company Ada, Oklahoma Three Forks Portland Cement Company Trident, Montana Hanover, Montana Nebraska Cement Company Superior, Nebraska United States Portland Cement Company Concrete, Colorado Union Portland Cement Company Devils Slide, Utah	9,500,000	3.6
7.	Medusa Portland Cement Company Bay Bridge, Ohio Silica, Ohio Newaygo, Michigan Dixon, Illinois Manitowoc, Wisconsin Wampurn, Pennsylvania York, Pennsylvania	9,000,000	3.2
8.	Consolidated Cement Corporation Fredonia, Kansas Mildred, Kansas Cement City, Michigan Florida Portland Cement Company Tampa, Florida Signal Mountain Portland Cement Company Chattanooga, Tennessee Trinity Portland Cement Company Eagle Ford, Texas Fort Worth, Texas Houston, Texas	8,900,000	3.2

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TABLE 67

	Company	Rated Capacity in Barrels	Percentage of Total Industry Capacity
9.	Marquette Cement Manufacturing Company LaSalle, Illinois Cape Girardeau, Missouri	7,000,000	2.66
10.	Huron Portland Cement Company Alpena, Michigan Wyandotte Portland Cement Company Wyandotte, Michigan	5,250,000	2.0
	58 smaller companies	117,336,000	44.5

Source: The American Cement Directory 1935, (published by Bradley Pulverizer Company)
H. E. Hilts "The Manufacturing Capacity, Volume and Costs of Portland Cement in the United States", NRA Division of Research and Planning, October 8, 1934.

TABLE 68
THE
CEMENT INDUSTRY
ESTIMATED MANUFACTURING AND SELLING COST OF PORTLAND CEMENT IN A REPRESENTATIVE PLANT, AT VARIOUS OPERATING CAPACITIES, CLASSIFIED BY ITEMS OF COST, AUGUST, 1932 a/
(Cost in Dollars Per Barrel)

Items of Cost	Percent Practical Operating Capacity		
	25%	50%	100%
Operating Cost			
Raw Materials	.113	.1015	.090
Raw Milling	.111	.1006	.085
Fuel for Burning	.198	.2089	.197
Burning and Cooling	.031	.0296	.025
Clinker & Gypsum Handling	.008	.0071	.006
Gypsum Used	.030	.0298	.029
Finish Grinding	.113	.1101	.100
Mill Overhead	.140	.0825	.060
Total	.744	.6701	.592
Packing and Loading			
Packing and Loading	.050	.0491	.035
Water Delivery	.025	.0254	.025
Sack Handling and Other	.023	.0189	.015
Total	.098	.0934	.075
Reserves			
Shut Down Expense, Insurance and Taxes	.046	.0231	.012
Contingencies	.005	.0030	.002
Depreciation & Depletion	.316	.1580	.079
Total	.367	.1841	.093
Sales and Administration			
Price Adjustment and Correction	.001	.0011	.001
Packages (Cloth or Paper) Discounts Allowed on Sales	.093	.0933	.093
Total	.094	.0944	.094
Sales Expense	.180	.120	.060
Advertising and Promotion	.035	.0273	.015
Total	.215	.1473	.075
Administrative Expense	.063	.0410	.030
Reserves for Bad Debts	.020	.0200	.020
Total	.083	.0610	.050
Grand Total	$1.601	$1.2503	$.979

Source: Research and Planning, N.R.A. - The Manufacturing Capacity. Volume and Costs of Portland Cement in the United States. October 8, 1934, Page 30.

1-3-36: dw

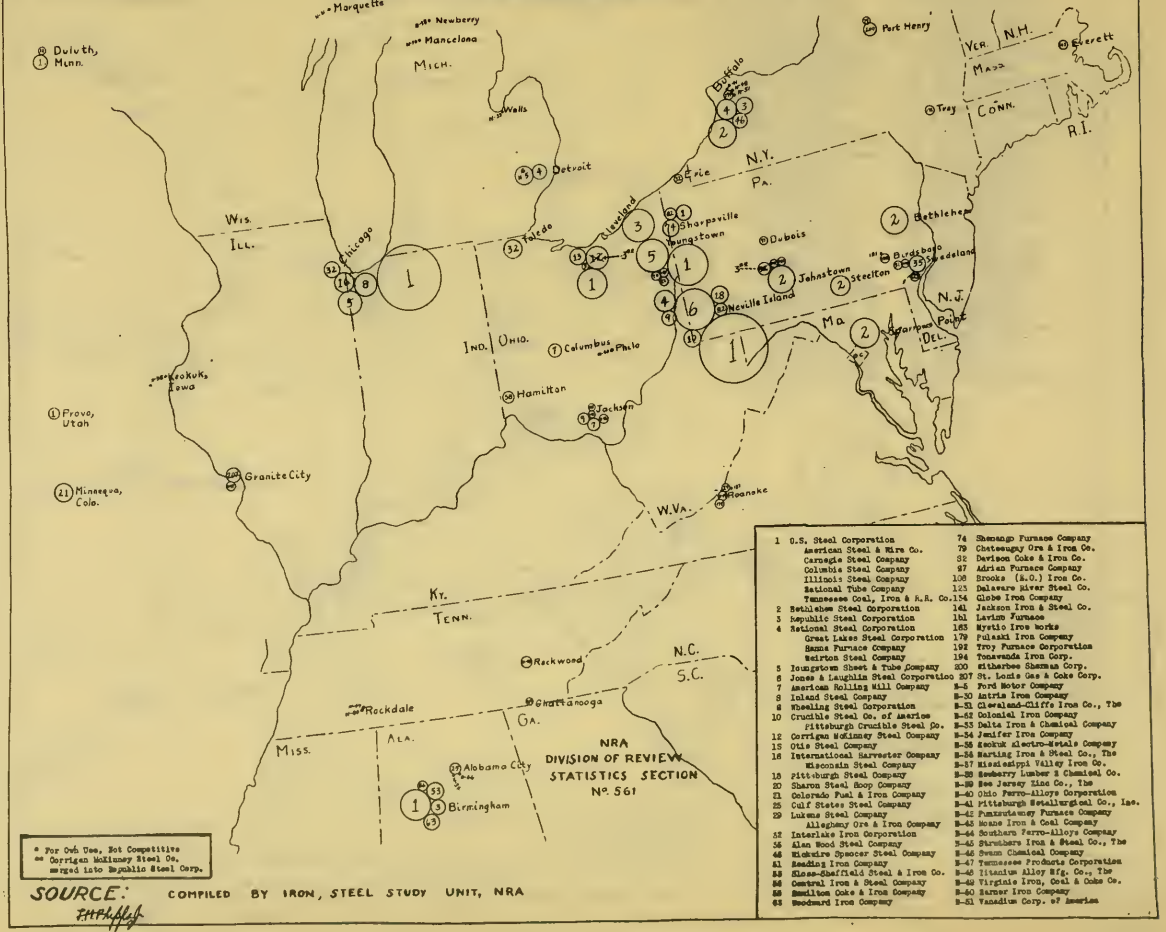
a/ Costs are those of an Efficient Dry Process. Northeastern Mill.

APPENDIX IV

CHARTS AND MAPS

19 Maps showing the Geographical Location of Steel Making Capacities, 2 Iron and Steel Price Charts and 1 Map showing Delivered Price Zones in the Walnut Industry.

MAP 1 – PIG IRON & FERRO-ALLOYS



* For Own Use, Not Competitive
** Corrigan McKinney Steel Co. merged into Republic Steel Corp.

1	U.S. Steel Corporation	74	Shenango Furnace Company
	American Steel & Wire Co.	79	Chattanooga Ore & Iron Co.
	Carnegie Steel Company	82	Davison Coke & Iron Co.
	Columbia Steel Company	87	Adrian Furnace Company
	Illinois Steel Company	108	Brooks (A.O.) Iron Co.
	National Tube Company	123	Delaware River Steel Co.
	Tennessee Coal, Iron & R.R. Co.	134	Globe Iron Company
2	Bethlehem Steel Corporation	141	Jackson Iron & Steel Co.
3	Republic Steel Corporation	1b1	Lavim Furnace
4	National Steel Corporation	163	Mystic Iron Works
	Great Lakes Steel Corporation	179	Pulaski Iron Company
	Hanna Furnace Company	192	Troy Furnace Corporation
	Weirton Steel Company	194	Tonawanda Iron Corp.
5	Youngstown Sheet & Tube Company	200	Witherbee Sherman Corp.
6	Jones & Laughlin Steel Corporation	B27	St. Louis Gas & Coke Corp.
7	American Rolling Mill Company	B-5	Ford Motor Company
8	Inland Steel Company	B-30	Interlake Iron Company
9	Wheeling Steel Corporation	B-31	Cleveland-Cliffs Iron Co., The
10	Crucible Steel Co. of America	B-62	Colonial Iron Company
	Pittsburgh Crucible Steel Co.	B-33	Delta Iron & Chemical Company
12	Corrigan McKinney Steel Company	B-34	Jenifer Iron Company
13	Otis Steel Company	B-35	Keokuk Electro-Metals Company
16	International Harvester Company	B-36	Marting Iron & Steel Co., The
	Wisconsin Steel Company	B-37	Mississippi Valley Iron Co.
18	Pittsburgh Steel Company	B-38	Newberry Lumber & Chemical Co.
20	Sharon Steel Hoop Company	B-39	New Jersey Zinc Co., The
21	Colorado Fuel & Iron Company	B-40	Ohio Ferro-Alloys Corporation
25	Gulf States Steel Company	B-41	Pittsburgh Metallurgical Co., Inc.
29	Lukens Steel Company	B-42	Pumpkintown Furnace Company
	Alleghany Ore & Iron Company	B-43	Keane Iron & Coal Company
37	Interlake Iron Corporation	B-44	Southern Ferro-Alloys Company
38	Allen Wood Steel Company	B-45	Shenango Iron & Steel Co., The
46	Wickwire Spencer Steel Company	B-46	Swann Chemical Company
51	Reading Iron Company	B-47	Tennessee Products Corporation
52	Rlims-Sheffield Steel & Iron Co.	B-48	Titanium Alloy Mfg. Co., The
56	Central Iron & Steel Company	B-49	Virginia Iron, Coal & Coke Co.
58	Hamilton Coke & Iron Company	B-50	Warner Iron Company
63	Woodward Iron Company	B-51	Vanadium Corp. of America

SOURCE: COMPILED BY IRON, STEEL STUDY UNIT, NRA

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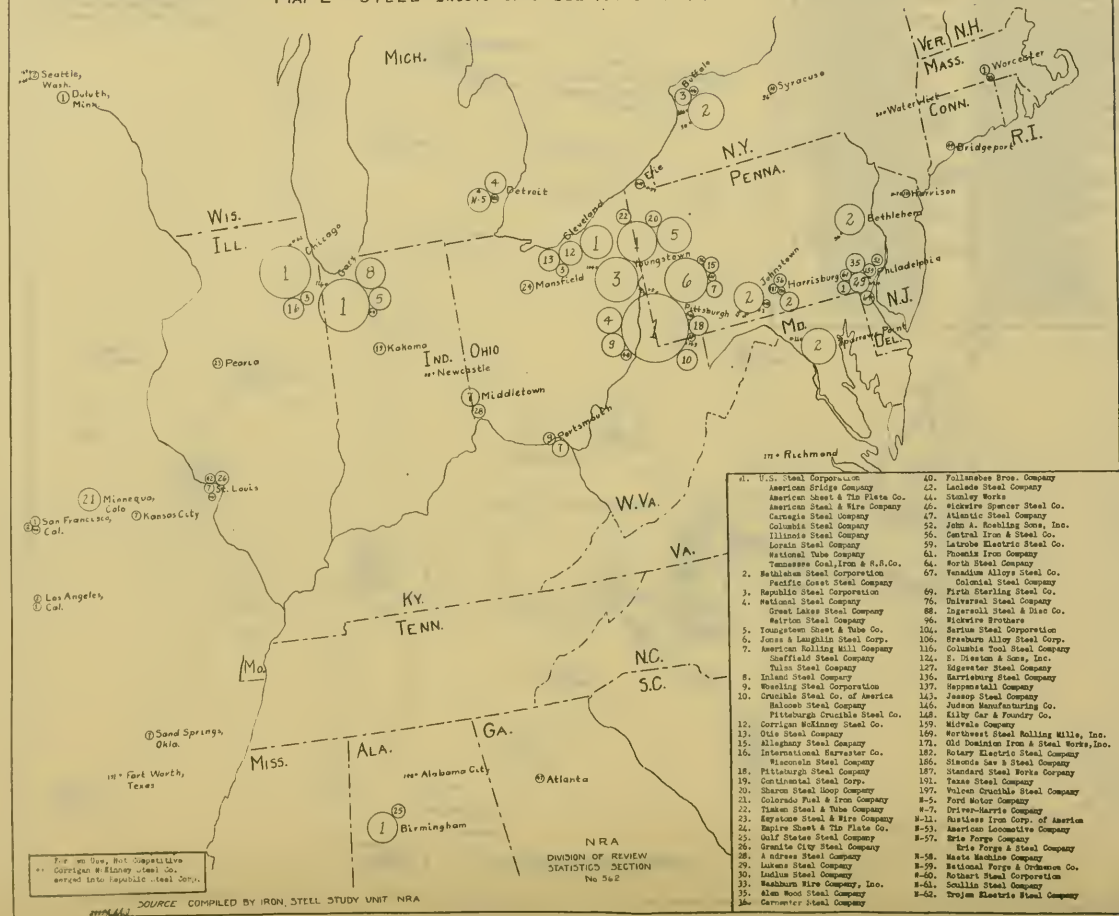
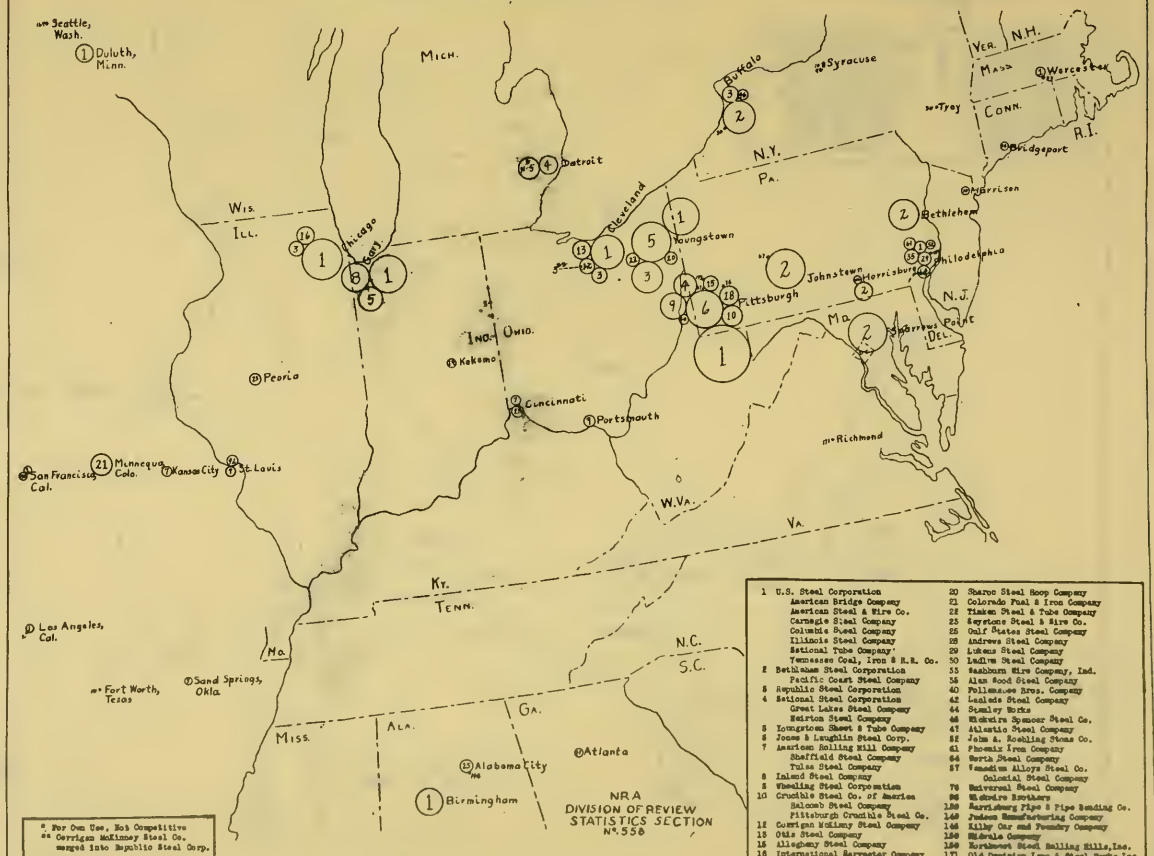
MAP 2 — STEEL INGOTS & STEEL FOR CASTINGS.



1. U.S. Steel Corporation
   American Bridge Company
   American Sheet & Tin Plate Co.
   American Steel & Wire Company
   Carnegie Steel Company
   Columbia Steel Company
   Illinois Steel Company
   Lorain Steel Company
   National Tube Company
   Tennessee Coal, Iron & R.R.Co.
2. Bethlehem Steel Corporation
   Pacific Coast Steel Company
3. Republic Steel Corporation
4. National Steel Company
   Great Lakes Steel Company
   Weirton Steel Company
5. Youngstown Sheet & Tube Co.
6. Jones & Laughlin Steel Corp.
7. American Rolling Mill Company
   Sheffield Steel Company
   Tulsa Steel Company
8. Inland Steel Company
9. Wheeling Steel Corporation
10. Crucible Steel Co. of America
    Halcomb Steel Company
    Pittsburgh Crucible Steel Co.
12. Corrigan McKinney Steel Co.
13. Otis Steel Company
15. Allegheny Steel Company
16. International Harvester Co.
    Wisconsin Steel Company
18. Pittsburgh Steel Company
19. Continental Steel Corp.
20. Sharon Steel Hoop Company
21. Colorado Fuel & Iron Company
22. Timken Steel & Tube Company
23. Keystone Steel & Wire Company
24. Empire Sheet & Tin Plate Co.
25. Gulf States Steel Company
26. Granite City Steel Company
28. Andrews Steel Company
29. Lukens Steel Company
30. Ludlum Steel Company
33. Washburn Wire Company, Inc.
35. Alan Wood Steel Company
36. Carpenter Steel Company
40. Follansbee Bros. Company
42. Laclede Steel Company
44. Stanley Works
46. Wickwire Spencer Steel Co.
47. Atlantic Steel Company
52. John A. Roebling Sons, Inc.
56. Central Iron & Steel Co.
59. Latrobe Electric Steel Co.
61. Phoenix Iron Company
64. North Steel Company
67. Vanadium Alloys Steel Co.
    Colonial Steel Company
69. Firth Sterling Steel Co.
76. Universal Steel Company
88. Ingersoll Steel & Disc Co.
96. Wickwire Brothers
104. Sarium Steel Corporation
106. Brasburn Alloy Steel Corp.
116. Columbia Tool Steel Company
124. E. Dieston & Sons, Inc.
127. Edgewater Steel Company
136. Harrisburg Steel Company
137. Heppenstall Company
143. Jessop Steel Company
146. Judson Manufacturing Co.
148. Kilby Car & Foundry Co.
159. Midvale Company
169. Northwest Steel Rolling Mills, Inc.
171. Old Dominion Iron & Steel Works, Inc.
182. Rotary Electric Steel Company
186. Simonds Saw & Steel Company
187. Standard Steel Works Company
191. Texas Steel Company
197. Vulcan Crucible Steel Company
N-5. Ford Motor Company
N-7. Driver-Harris Company
N-11. Rustless Iron Corp. of America
N-53. American Locomotive Company
N-57. Erie Forge Company
    Erie Forge & Steel Company
N-58. Waste Machine Company
N-59. National Forge & Ordnance Co.
N-60. Rothert Steel Corporation
N-61. Scullin Steel Company
N-62. Trojan Electric Steel Company

MAP 3 – BLOOMS, BILLETS, & SLABS



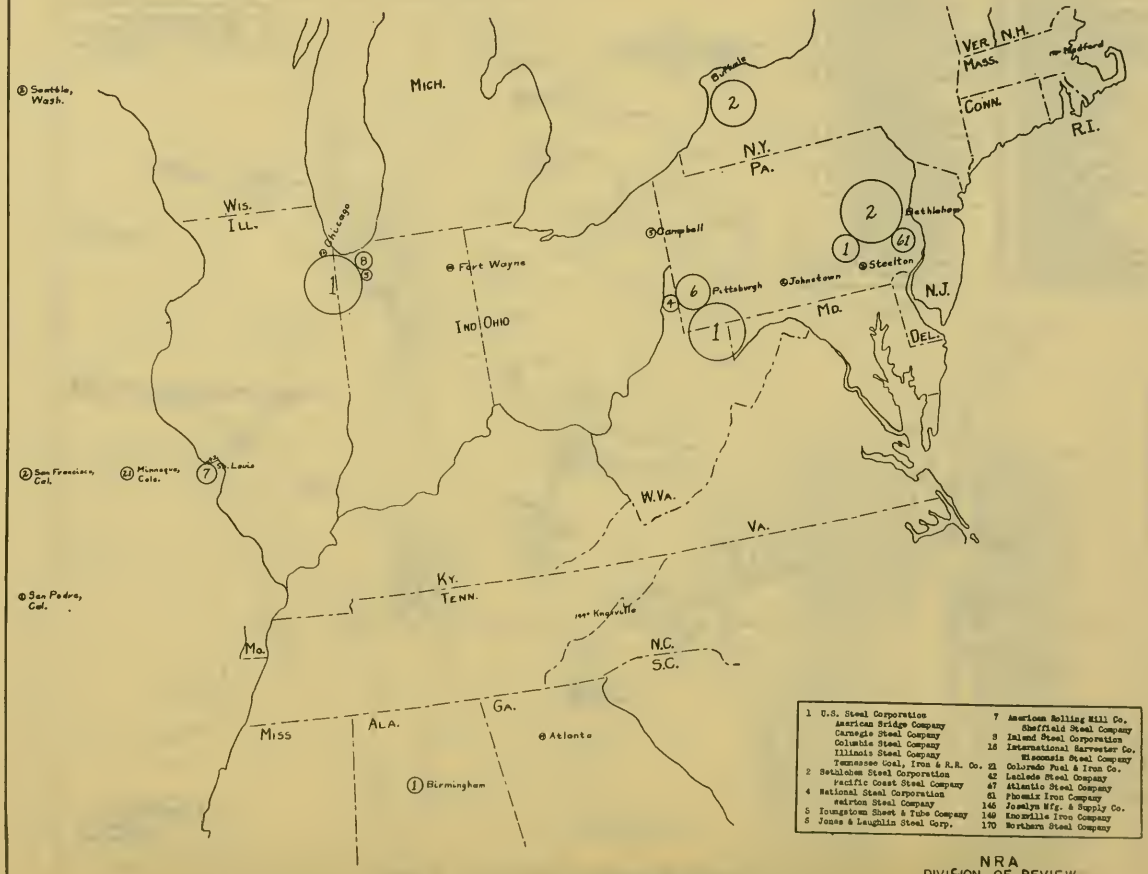
1	U.S. Steel Corporation	20	Sharon Steel Hoop Company
	American Bridge Company	21	Colorado Fuel & Iron Company
	American Steel & Wire Co.	22	Timken Steel & Tube Company
	Carnegie Steel Company	23	Keystone Steel & Wire Co.
	Columbia Steel Company	25	Gulf States Steel Company
	Illinois Steel Company	28	Andrews Steel Company
	National Tube Company	29	Lukens Steel Company
	Tennessee Coal, Iron & R.R. Co.	30	Ludlum Steel Company
2	Bethlehem Steel Corporation	33	Washburn Wire Company, Ind.
	Pacific Coast Steel Company	35	Alan Wood Steel Company
3	Republic Steel Corporation	40	Follansbee Bros. Company
4	National Steel Corporation	42	Laclede Steel Company
	Great Lakes Steel Company	44	Stanley Works
	Weirton Steel Company	46	Wickwire Spencer Steel Co.
5	Youngstown Sheet & Tube Company	47	Atlantic Steel Company
6	Jones & Laughlin Steel Corp.	52	John A. Roebling Sons Co.
7	American Rolling Mill Company	61	Phoenix Iron Company
	Sheffield Steel Company	64	Worth Steel Company
	Tulsa Steel Company	67	Vanadium Alloys Steel Co.
8	Inland Steel Company		Colonial Steel Company
9	Wheeling Steel Corporation	76	Universal Steel Company
10	Crucible Steel Co. of America	96	Wickwire Brothers
	Balcomb Steel Company	139	Harrisburg Pipe & Pipe Bending Co.
	Pittsburgh Crucible Steel Co.	140	Judson Manufacturing Company
12	Corrigan McKinney Steel Company	146	Kilby Car and Foundry Company
13	Otis Steel Company	150	Midvale Company
15	Allegheny Steel Company	160	Northwest Steel Rolling Mills, Inc.
16	International Harvester Company	171	Old Dominion Iron & Steel Works, Inc.
	Wisconsin Steel Company	191	Yemas Steel Company
18	Pittsburgh Steel Company	197	Vulcan Crucible Steel Company
19	Continental Steel Corporation	2-6	Ford Motor Company

* For Own Use, Not Competitive
** Corrigan McKinney Steel Co. merged into Republic Steel Corp.

SOURCE: COMPILED BY IRON STEEL STUDY UNIT, NRA

[illegible]

MAP 4 - STRUCTURAL SHAPES



1	U.S. Steel Corporation	7	American Rolling Mill Co.
	American Bridge Company		Sheffield Steel Company
	Carnegie Steel Company	9	Inland Steel Corporation
	Columbia Steel Company	18	International Harvester Co.
	Illinois Steel Company		Wisconsin Steel Company
	Tennessee Coal, Iron & R.R. Co.	21	Colorado Fuel & Iron Co.
2	Bethlehem Steel Corporation	42	Lasalle Steel Company
	Pacific Coast Steel Company	47	Atlantic Steel Company
4	National Steel Corporation	61	Phoenix Iron Company
	Weirton Steel Company	146	Joselyn Mfg. & Supply Co.
5	Youngstown Sheet & Tube Company	149	Knoxville Iron Company
6	Jones & Laughlin Steel Corp.	170	Northern Steel Company

SOURCE: COMPILED BY IRON AND STEEL STUDY UNIT, NRA

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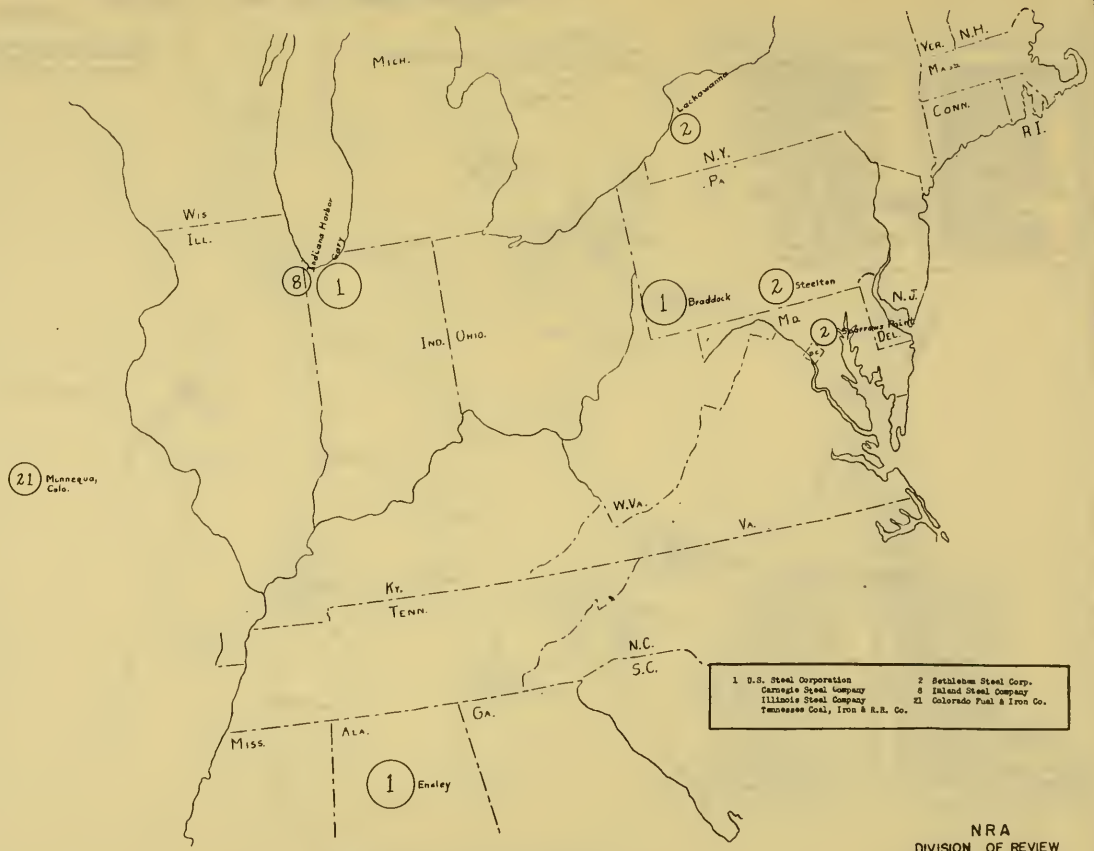
MAP 5 – STEEL RAILS



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SOURCE: COMPILED BY IRON AND STEEL STUDY UNIT, NRA

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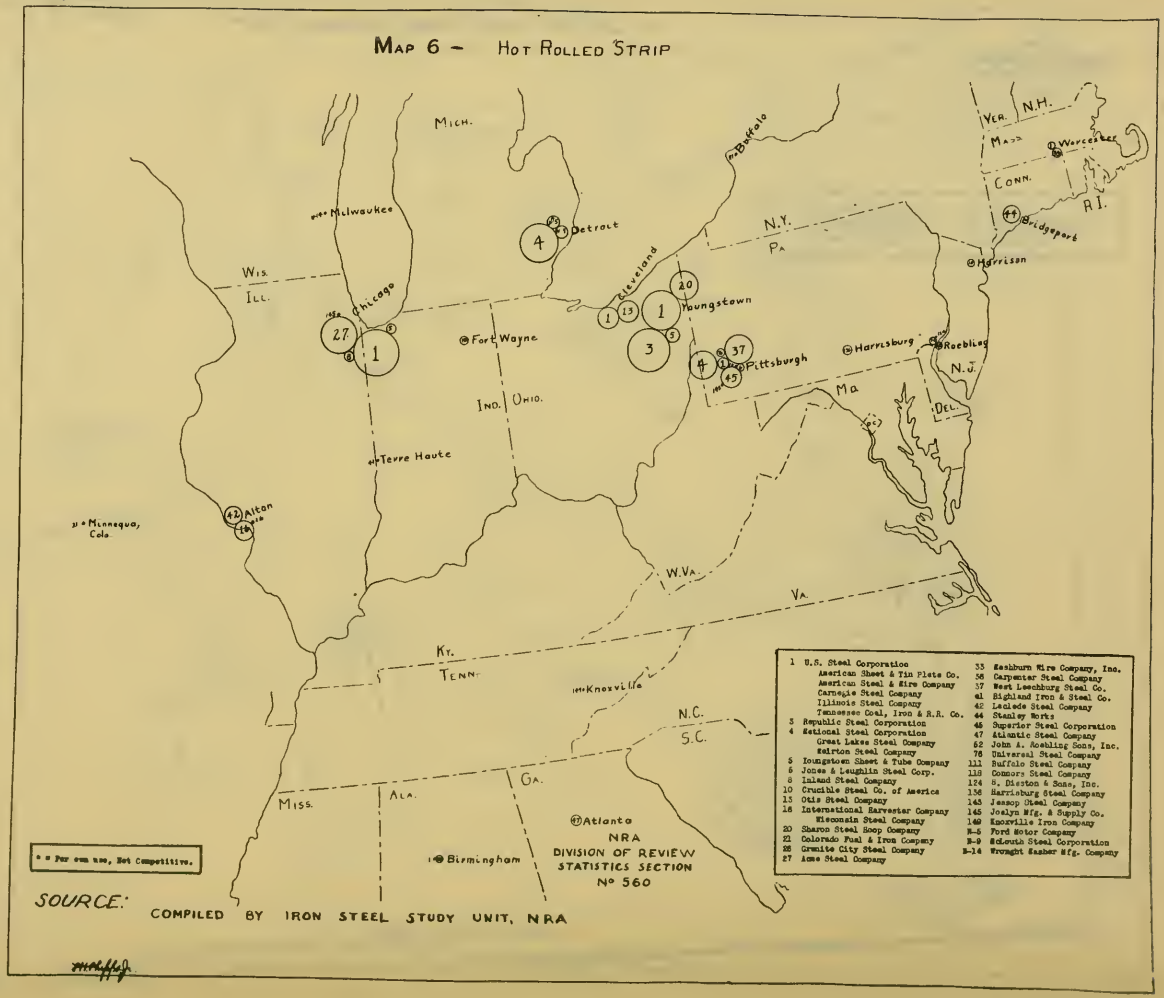
MAP 6 – HOT ROLLED STRIP
MICH.
WIS.
ILL.
IND.
OHIO
KY.
TENN.
W.VA.
VA.
N.C.
S.C.
GA.
MISS.
ALA.
N.Y.
PA
N.J.
MD.
DEL.
CONN.
MASS.
VER.
N.H.
R.I.
Milwaukee
Detroit
Buffalo
Cleveland
Youngstown
Chicago
Fort Wayne
Pittsburgh
Harrisburg
Reading
Worcester
Bridgeport
Harrison
Terre Haute
Alton
Minneapolis
Knoxville
Atlanta
Birmingham
1 U.S. Steel Corporation
American Sheet & Tin Plate Co.
American Steel & Wire Company
Carnegie Steel Company
Illinois Steel Company
Tennessee Coal, Iron & R.R. Co.
3 Republic Steel Corporation
4 National Steel Corporation
Great Lakes Steel Company
Weirton Steel Company
5 Youngstown Sheet & Tube Company
6 Jones & Laughlin Steel Corp.
8 Inland Steel Company
10 Crucible Steel Co. of America
13 Otis Steel Company
16 International Harvester Company
Wisconsin Steel Company
20 Sharon Steel Hoop Company
21 Colorado Fuel & Iron Company
22 Granite City Steel Company
27 Acme Steel Company
33 Washburn Wire Company, Inc.
36 Carpenter Steel Company
37 West Leechburg Steel Co.
41 Highland Iron & Steel Co.
42 Laclede Steel Company
44 Stanley Works
45 Superior Steel Corporation
47 Atlantic Steel Company
62 John A. Roebling Sons, Inc.
76 Universal Steel Company
111 Buffalo Steel Company
118 Connors Steel Company
124 H. Disston & Sons, Inc.
136 Harrisburg Steel Company
145 Isaacs Steel Company
145 Joslyn Mfg. & Supply Co.
149 Knoxville Iron Company
B-5 Ford Motor Company
B-9 Midvale Steel Corporation
B-14 Wrought Washer Mfg. Company
* = Per cent use, Not Competitive.
SOURCE:
COMPILED BY IRON STEEL STUDY UNIT, NRA
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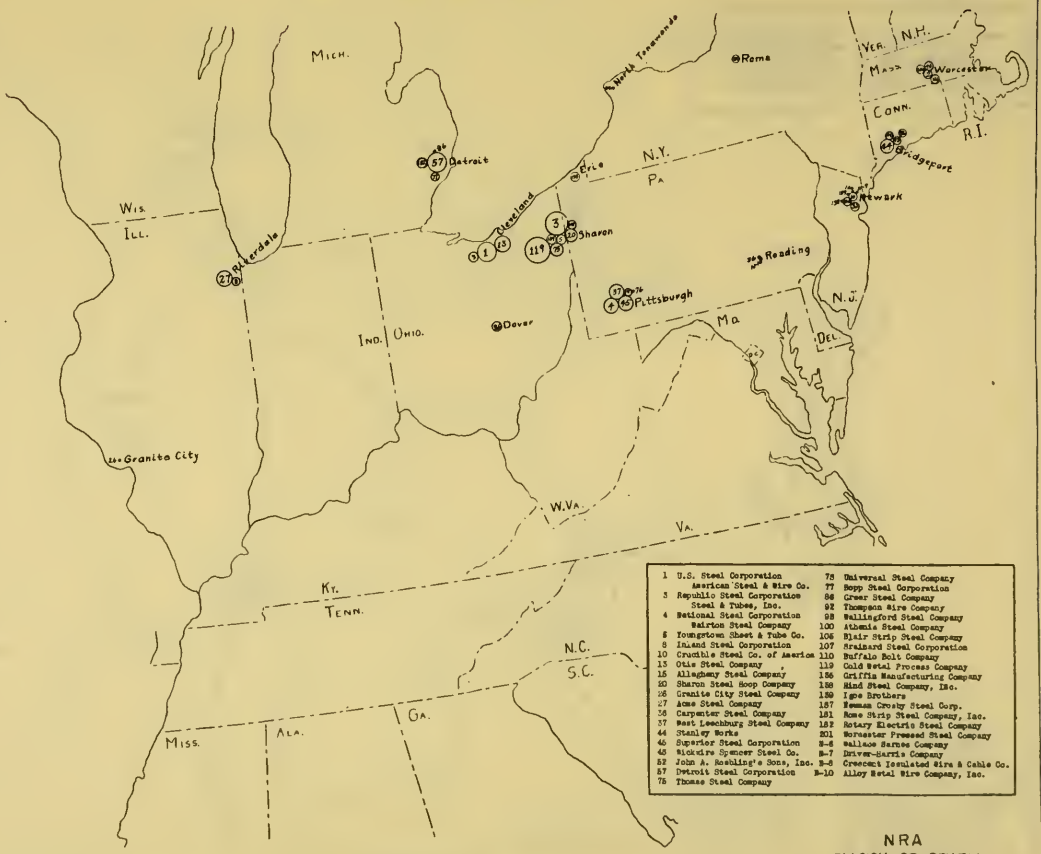
MAP 7 — COLD ROLLED STRIP



1	U.S. Steel Corporation	78	Universal Steel Company
	American Steel & Wire Co.	77	Sharp Steel Corporation
3	Republic Steel Corporation	86	Greer Steel Company
	Steel & Tubes, Inc.	92	Thompson Wire Company
4	National Steel Corporation	98	Wallingford Steel Company
	Weirton Steel Company	100	Athenia Steel Company
5	Youngstown Sheet & Tube Co.	106	Blair Strip Steel Company
9	Inland Steel Corporation	107	Sraisard Steel Corporation
10	Crucible Steel Co. of America	110	Buffalo Bolt Company
13	Otis Steel Company	119	Cold Metal Process Company
15	Allaghany Steel Company	136	Griffin Manufacturing Company
20	Sharon Steel Hoop Company	138	Hind Steel Company, Inc.
26	Granite City Steel Company	139	Igoe Brothers
27	Acme Steel Company	187	Newman Crosby Steel Corp.
36	Carpenter Steel Company	181	Rome Strip Steel Company, Inc.
37	West Leechburg Steel Company	182	Rotary Electric Steel Company
44	Stanley Works	201	Worcester Pressed Steel Company
46	Superior Steel Corporation	B-6	Wallace Barnes Company
48	Wickwire Spencer Steel Co.	B-7	Driver-Harris Company
52	John A. Roebling's Sons, Inc.	B-8	Crescent Insulated Wire & Cable Co.
57	Detroit Steel Corporation	B-10	Alloy Metal Wire Company, Inc.
72	Thomas Steel Company		

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SOURCE: COMPILED BY IRON AND STEEL STUDY UNIT, NRA

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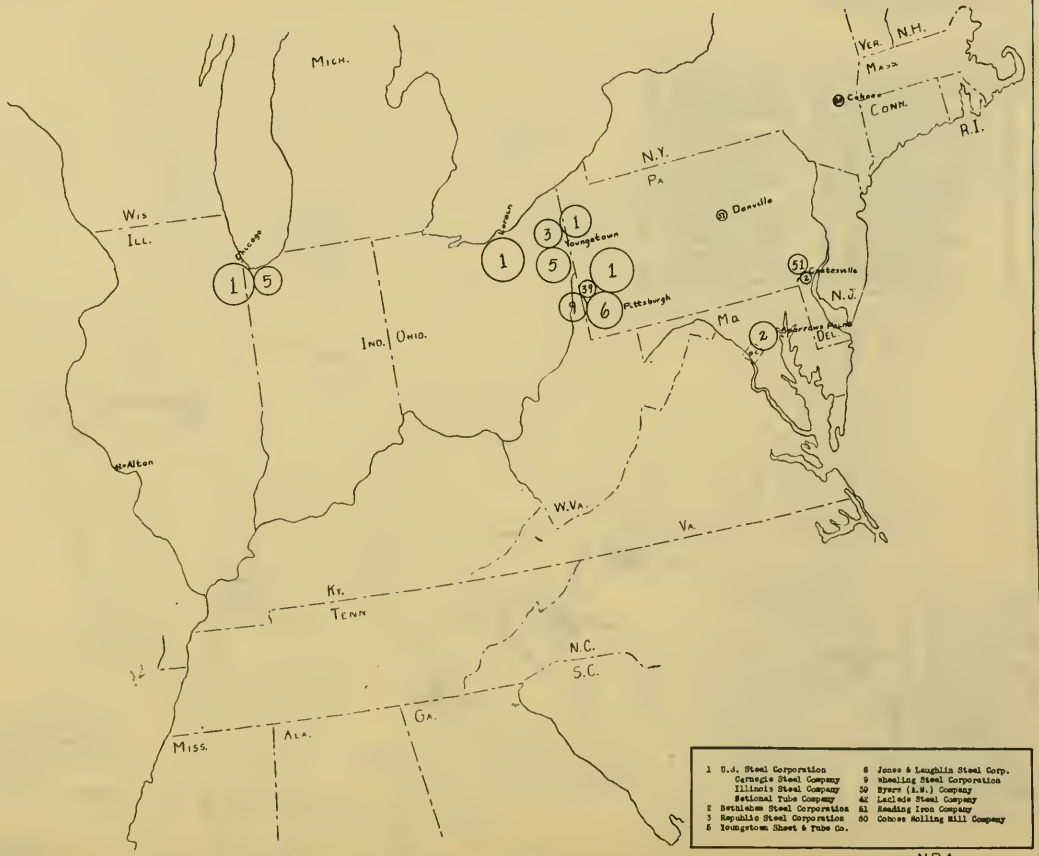
MAP 8 - SKELP



SOURCE: COMPILED BY IRON AND STEEL STUDY UNIT, NRA

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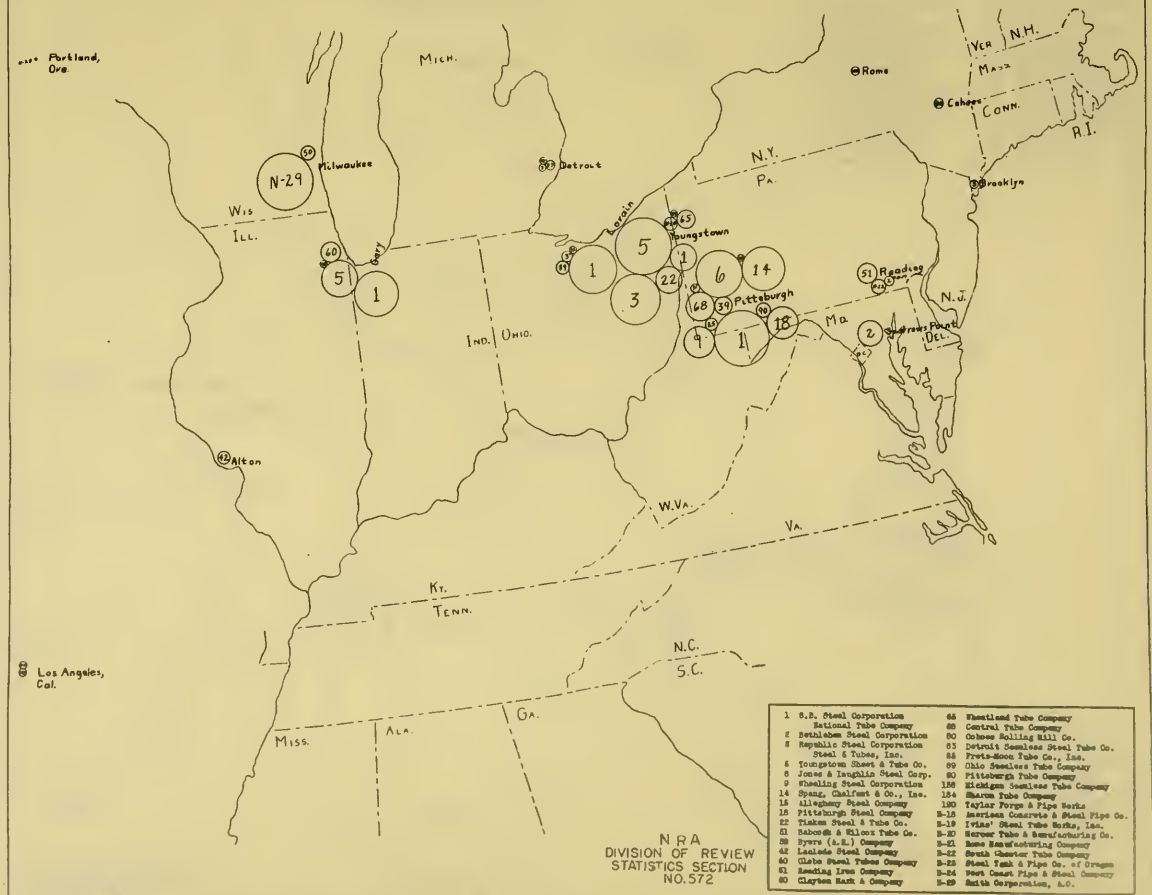
MAP 9 - PIPE & TUBULAR PRODUCTS



1	U.S. Steel Corporation	65	Wheatland Tube Company
	National Tube Company	68	Central Tube Company
2	Bethlehem Steel Corporation	90	Cohoes Rolling Mill Co.
5	Republic Steel Corporation	63	Detroit Seamless Steel Tube Co.
	Steel & Tubes, Inc.	65	Frets-Moon Tube Co., Inc.
6	Youngstown Sheet & Tube Co.	99	Ohio Seamless Tube Company
8	Jones & Laughlin Steel Corp.	80	Pittsburgh Tube Company
9	Wheeling Steel Corporation	188	Michigan Seamless Tube Company
14	Spang, Chalfant & Co., Inc.	184	Sharon Tube Company
15	Allegheny Steel Company	180	Taylor Forge & Pipe Works
18	Pittsburgh Steel Company	B-18	American Concrete & Steel Pipe Co.
22	Timken Steel & Tube Co.	B-19	Ivins' Steel Tube Works, Inc.
51	Babcock & Wilcox Tube Co.	B-20	Herrer Tube & Manufacturing Co.
59	Byers (A.M.) Company	B-21	Reno Manufacturing Company
42	Laclede Steel Company	B-22	South Chester Tube Company
60	Globe Steel Tubes Company	B-23	Steel Tank & Pipe Co. of Oregon
61	Reading Iron Company	B-24	West Coast Pipe & Steel Company
80	Clayton Mark & Company	B-29	Smith Corporation, A.O.

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SOURCE: COMPILED BY IRON AND STEEL STUDY UNIT, NRA

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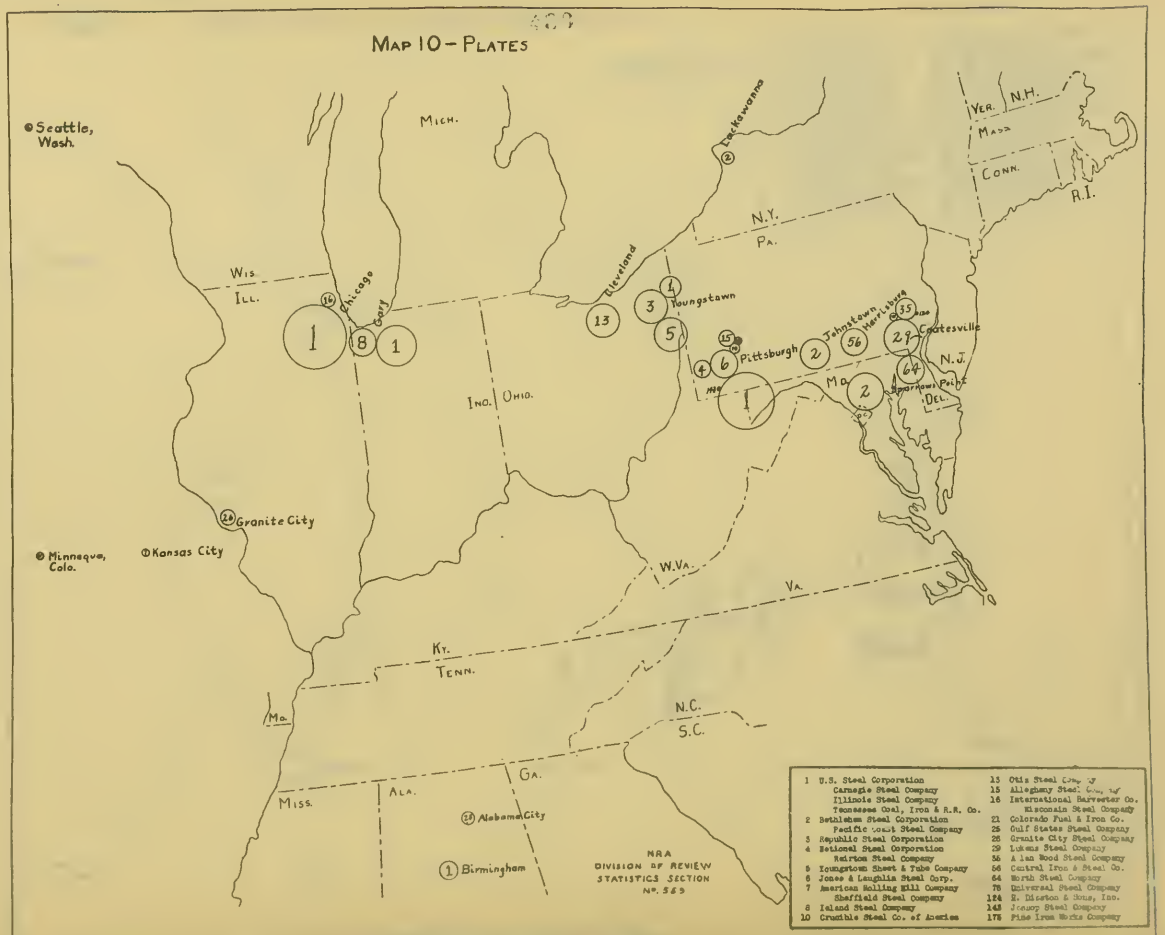
MAP 10 – PLATES

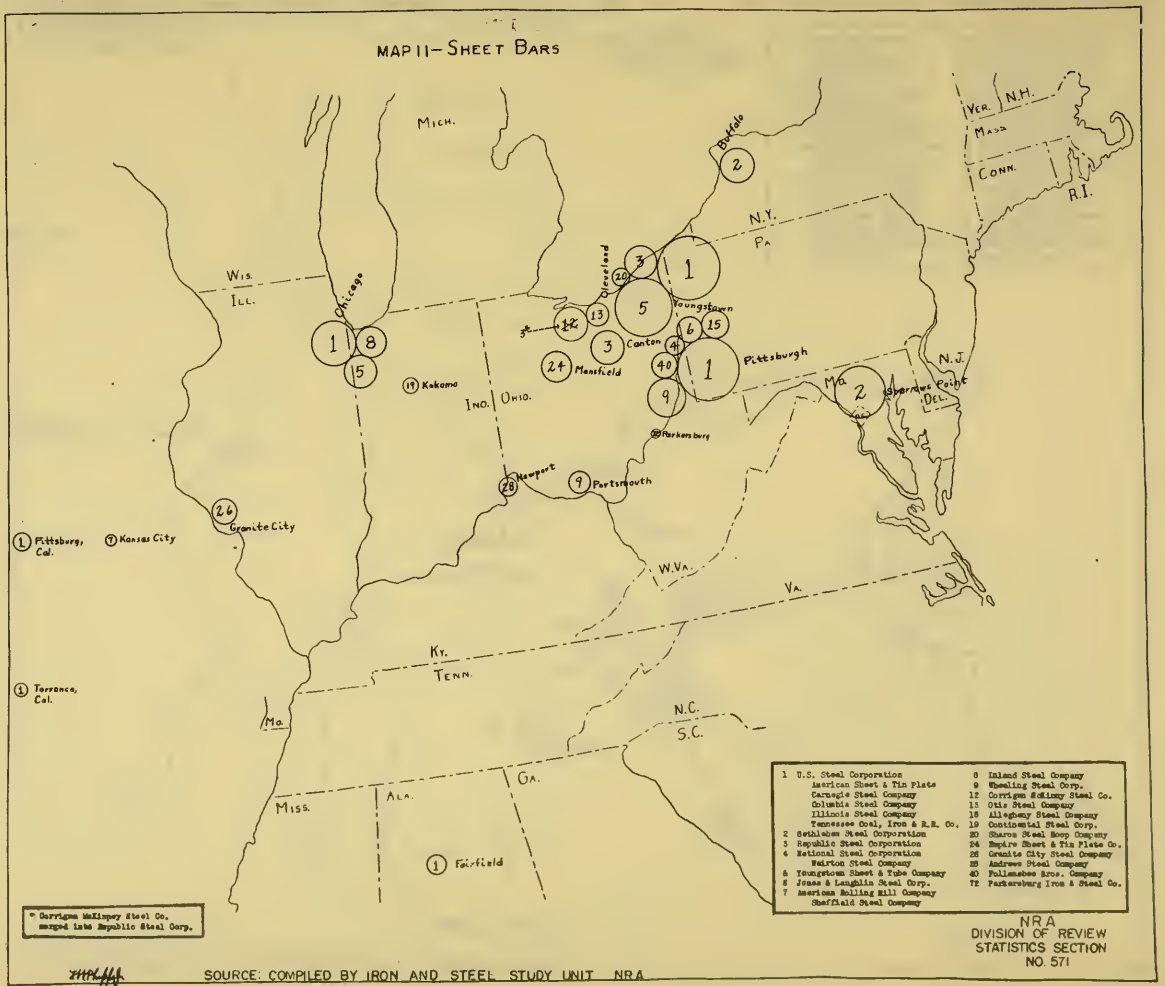


1	U.S. Steel Corporation Carnegie Steel Company Illinois Steel Company Tennessee Coal, Iron & R.R. Co.	13	Otis Steel Co., O
		15	Allegheny Steel Co., Pa
		16	International Harvester Co. Wisconsin Steel Company
2	Bethlehem Steel Corporation Pacific Coast Steel Company	21	Colorado Fuel & Iron Co.
		28	Gulf States Steel Company
3	Republic Steel Corporation	26	Granite City Steel Company
4	National Steel Corporation Weirton Steel Company	29	Lukens Steel Company
		36	Allan Wood Steel Company
5	Youngstown Sheet & Tube Company	56	Central Iron & Steel Co.
6	Jones & Laughlin Steel Corp.	64	Worth Steel Company
7	American Rolling Mill Company Sheffield Steel Company	78	Universal Steel Company
		124	H. Disston & Sons, Inc.
8	Inland Steel Company	143	Jessop Steel Company
10	Crucible Steel Co. of America	178	Pike Iron Works Company

SOURCE: COMPILED BY IRON STEEL STUDY UNIT, NRA

9284

MAP II – SHEET BARS



1	U.S. Steel Corporation American Sheet & Tin Plate Carnegie Steel Company Columbia Steel Company Illinois Steel Company Tennessee Coal, Iron & R.R. Co.
2	Bethlehem Steel Corporation
3	Republic Steel Corporation
4	National Steel Corporation Weirton Steel Company
5	Youngstown Sheet & Tube Company
6	Jones & Laughlin Steel Corp.
7	American Rolling Mill Company Sheffield Steel Company
8	Inland Steel Company
9	Wheeling Steel Corp.
12	Carrigan McKinney Steel Co.
13	Otis Steel Company
18	Allegheny Steel Company
19	Continental Steel Corp.
20	Sharon Steel Hoop Company
24	Empire Sheet & Tin Plate Co.
26	Granite City Steel Company
28	Andrews Steel Company
40	Follansbee Bros. Company
72	Parkersburg Iron & Steel Co.

* Carrigan McKinney Steel Co. merged into Republic Steel Corp.

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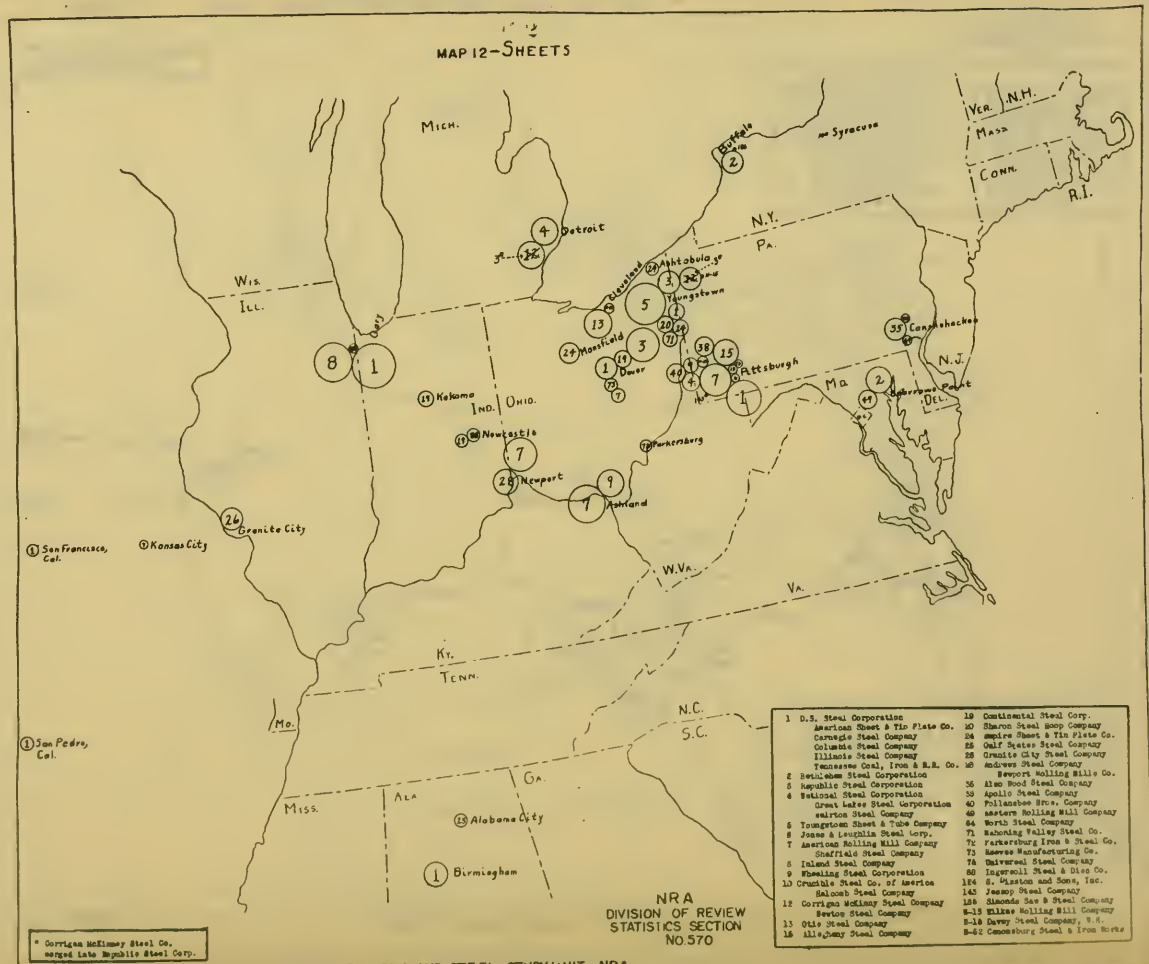
SOURCE: COMPILED BY IRON AND STEEL STUDY UNIT NRA

9884


MAP 12—SHEETS
MICH.
WIS.
ILL.
IND.
OHIO.
N.Y.
PA.
VER.
N.H.
MASS.
CONN.
R.I.
N.J.
DEL.
MD.
W.VA.
VA.
KY.
TENN.
N.C.
S.C.
GA.
ALA.
MISS.
MO.
Detroit
Buffalo
Syracuse
Cleveland
Ashtabula
Youngstown
Mansfield
Dover
Pittsburgh
Canshohocken
Barrows Point
Kokomo
Newcastle
Newport
Parkersburg
Ashland
Granite City
Kansas City
San Francisco, Cal.
San Pedro, Cal.
Alabama City
Birmingham
1 D.S. Steel Corporation
American Sheet & Tin Plate Co.
Carnegie Steel Company
Columbia Steel Company
Illinois Steel Company
Tennessee Coal, Iron & R.R. Co.
2 Bethlehem Steel Corporation
3 Republic Steel Corporation
4 National Steel Corporation
Great Lakes Steel Corporation
Weirton Steel Company
5 Youngstown Sheet & Tube Company
6 Jones & Laughlin Steel Corp.
7 American Rolling Mill Company
Sheffield Steel Company
8 Inland Steel Company
9 Wheeling Steel Corporation
10 Crucible Steel Co. of America
Halcomb Steel Company
12 Corrigan McKinney Steel Company
Newton Steel Company
13 Otis Steel Company
15 Allegheny Steel Company
19 Continental Steel Corp.
20 Sharon Steel Hoop Company
24 Empire Sheet & Tin Plate Co.
25 Gulf States Steel Company
26 Granite City Steel Company
28 Andrews Steel Company
Newport Rolling Mills Co.
36 Alan Wood Steel Company
38 Apollo Steel Company
40 Follansbee Bros. Company
49 Eastern Rolling Mill Company
64 North Steel Company
71 Mahoning Valley Steel Co.
72 Parkersburg Iron & Steel Co.
73 Reeves Manufacturing Co.
74 Universal Steel Company
80 Ingersoll Steel & Disc Co.
124 S. Wisston and Sons, Inc.
145 Jessop Steel Company
158 Simonds Saw & Steel Company
B-13 Wilkes Rolling Mill Company
B-18 Davey Steel Company, N.H.
B-52 Conemsburg Steel & Iron Works
* Corrigan McKinney Steel Co. merged into Republic Steel Corp.
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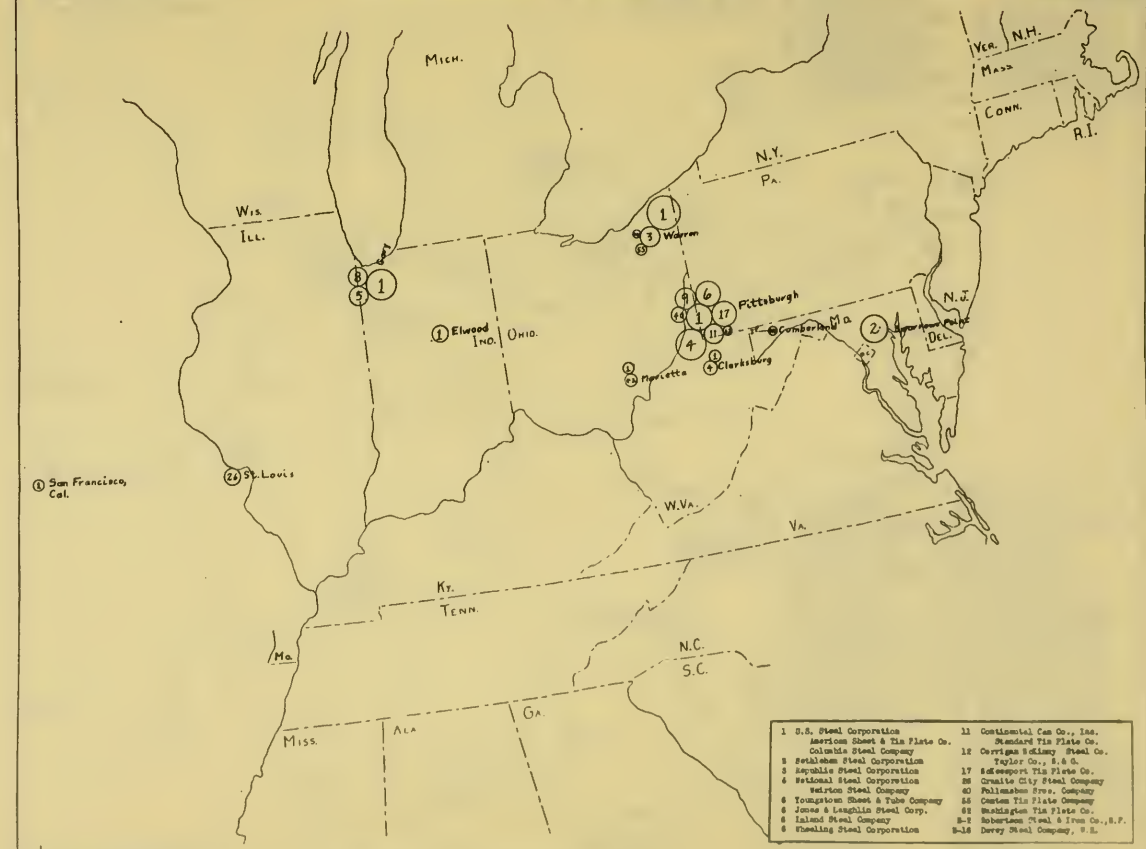
NO.570
SOURCE: COMPILED BY IRON AND STEEL STUDY UNIT NRA

MAP 13 - TIN MILL BLACK PLATE



1	U.S. Steel Corporation	11	Continental Can Co., Inc.
	American Sheet & Tin Plate Co.		Standard Tin Plate Co.
	Columbia Steel Company	12	Carrigan McKinney Steel Co.
3	Bethlehem Steel Corporation		Taylor Co., E. & G.
2	Republic Steel Corporation	17	Independent Tin Plate Co.
4	National Steel Corporation	26	Granite City Steel Company
	Weirton Steel Company	40	Follansbee Bros. Company
6	Youngstown Sheet & Tube Company	55	Canton Tin Plate Company
6	Jones & Laughlin Steel Corp.	91	Washington Tin Plate Co.
6	Inland Steel Company	B-2	Robertson Steel & Iron Co., S.F.
6	Wheeling Steel Corporation	B-16	Dewey Steel Company, U.S.

* Carrigan McKinney Steel Co. merged into Republic Steel Corp.

SOURCE: COMPILED BY IRON AND STEEL STUDY UNIT NRA

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MAP 14 — TIN PLATE & TERNE PLATE

1 U.S. Steel Corporation American Sheet & Tin Plate Co. Columbia Steel Company	11 Continental Can Co., Inc. Standard Tin Plate
2 Bethlehem Steel Corporation	12 Corrigan McKinney Steel Co. Taylor Company, E. & G.
3 Republic Steel Corporation	17 McKeesport Tin Plate Co.
4 National Steel Corporation Weirton Steel Company	25 Granite City Steel Company
5 Youngstown Sheet & Tube Company	40 Follansbee Bros. Company
6 Jones & Laughlin Steel Corp.	46 Canton Tin Plate Company
9 Inland Steel Company	82 Washington Tin Plate Co
9 Wheeling Steel Corporation	B-2 Robertson Steel & Iron Co., N.Y.

* Corrigan McKinney Steel Co. merged into Republic Steel Corp.

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SOURCE: COMPILED BY IRON AND STEEL STUDY UNIT NRA

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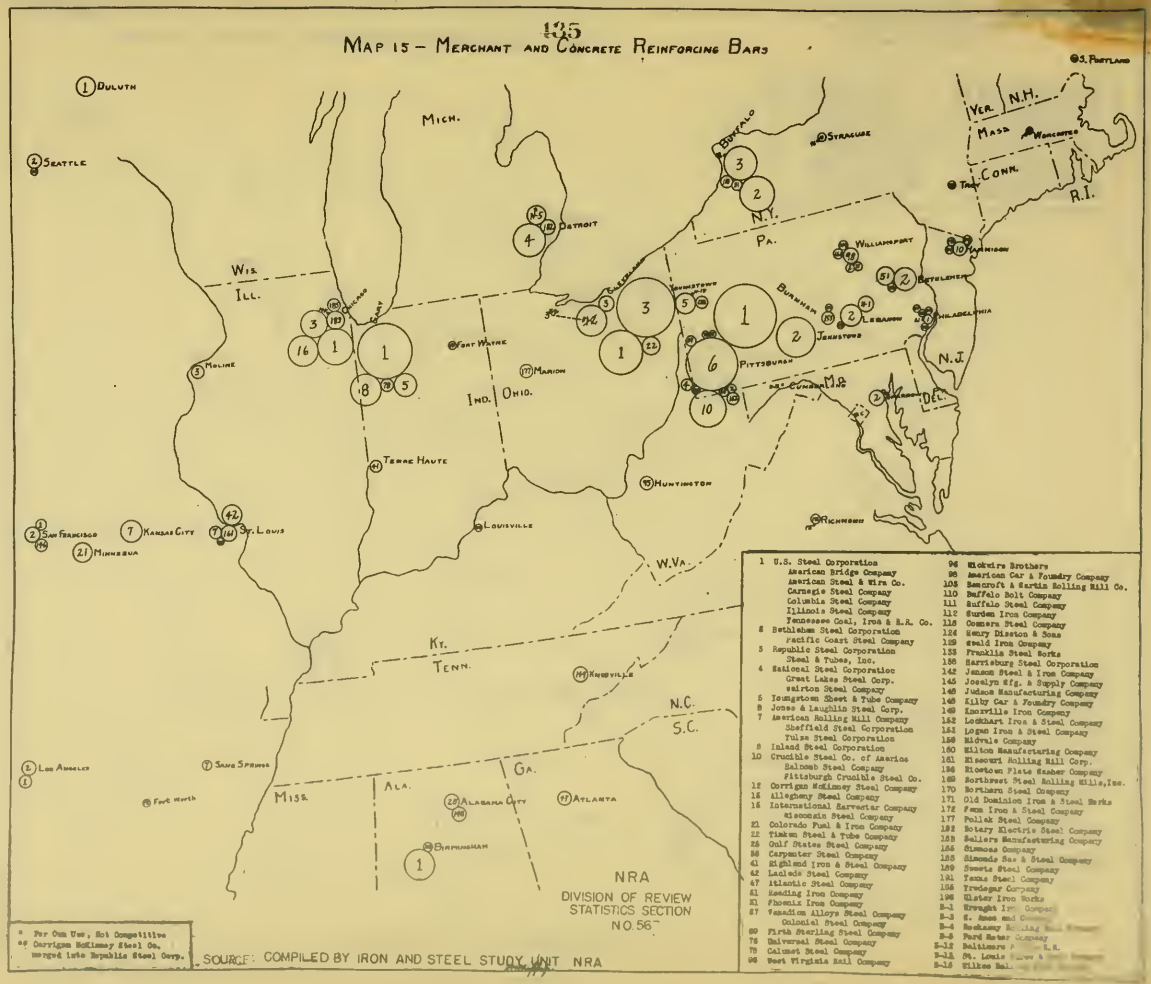
Map 15 – Merchant and Concrete Reinforcing Bars



1 U.S. Steel Corporation
American Bridge Company
American Steel & Wire Co.
Carnegie Steel Company
Columbia Steel Company
Illinois Steel Company
Tennessee Coal, Iron & R.R. Co.
2 Bethlehem Steel Corporation
Pacific Coast Steel Company
3 Republic Steel Corporation
Steel & Tubes, Inc.
4 National Steel Corporation
Great Lakes Steel Corp.
Weirton Steel Company
5 Youngstown Sheet & Tube Company
6 Jones & Laughlin Steel Corp.
7 American Rolling Mill Company
Sheffield Steel Corporation
Tulsa Steel Corporation
8 Inland Steel Corporation
10 Crucible Steel Co. of America
Balcomb Steel Company
Pittsburgh Crucible Steel Co.
12 Corrigan McKinney Steel Company
15 Allegheny Steel Company
16 International Harvester Company
Wisconsin Steel Company
21 Colorado Fuel & Iron Company
22 Timken Steel & Tube Company
25 Gulf States Steel Company
36 Carpenter Steel Company
41 Highland Iron & Steel Company
42 Laclede Steel Company
47 Atlantic Steel Company
51 Reading Iron Company
51 Phoenix Iron Company
57 Vanadium Alloys Steel Company
Colonial Steel Company
60 Firth Sterling Steel Company
76 Universal Steel Company
78 Calumet Steel Company
96 West Virginia Rail Company
96 Hickwire Brothers
98 American Car & Foundry Company
103 Bancroft & Martin Rolling Mill Co.
110 Buffalo Bolt Company
111 Buffalo Steel Company
112 Burden Iron Company
118 Conners Steel Company
124 Henry Disston & Sons
129 Weald Iron Company
133 Franklin Steel Works
138 Harrisburg Steel Corporation
142 Jenson Steel & Iron Company
145 Josslyn Mfg. & Supply Company
148 Judson Manufacturing Company
148 Kilby Car & Foundry Company
149 Knoxville Iron Company
152 Lockhart Iron & Steel Company
153 Logan Iron & Steel Company
158 Midvale Company
160 Milton Manufacturing Company
161 Missouri Rolling Mill Corp.
166 Mortown Plate Washer Company
169 Northwest Steel Rolling Mills, Inc.
170 Northern Steel Company
171 Old Dominion Iron & Steel Works
172 Penn Iron & Steel Company
177 Pollak Steel Company
182 Rotary Electric Steel Company
183 Sellers Manufacturing Company
185 Simmons Company
183 Simonds Saw & Steel Company
189 Sweets Steel Company
191 Texas Steel Company
195 Tredegar Company
196 Ulster Iron Works
B-1 Wrought Iron Company
B-3 E. Ames and Company
B-4 Beckaway Rolling Mill Company
B-6 Ford Motor Company
B-12 Baltimore [illegible] R.R.
B-13 St. Louis [illegible]
B-15 Wilkes Bal[illegible]

* For Own Use, Not Competitive
** Corrigan McKinney Steel Co. merged into Republic Steel Corp.

SOURCE: COMPILED BY IRON AND STEEL STUDY UNIT NRA

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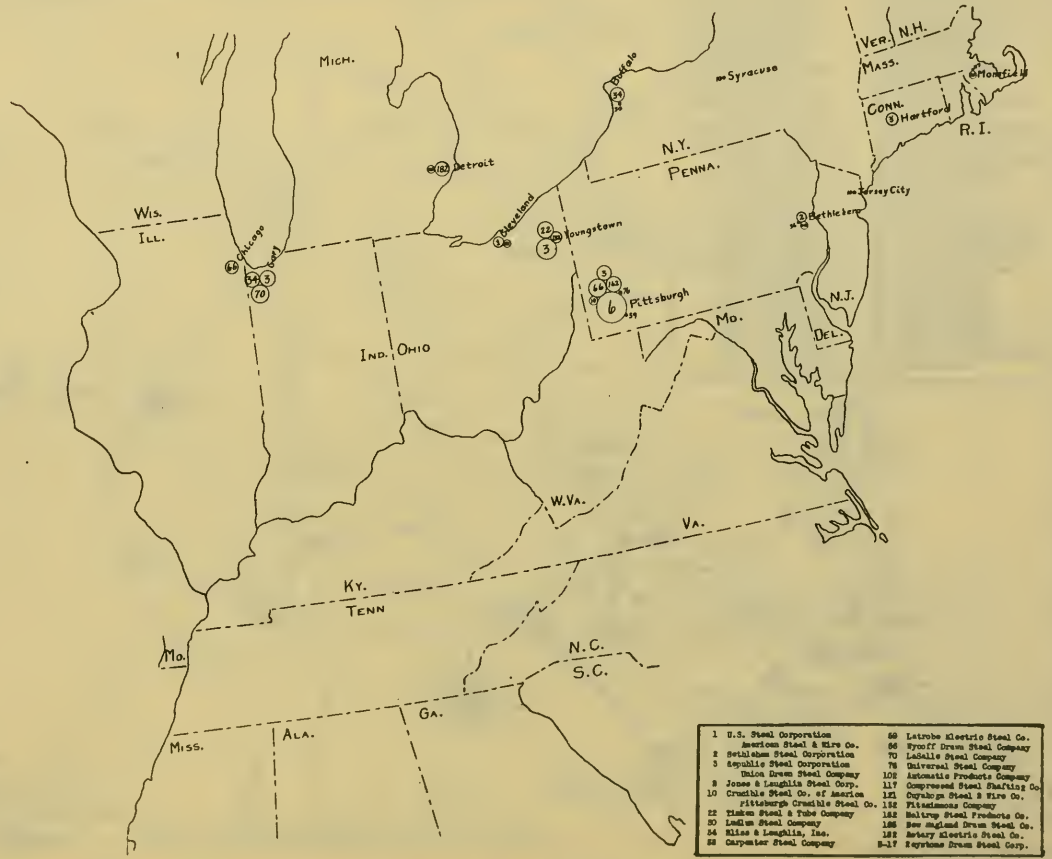
MAP 16 — COLD DRAWN BARS



1	U.S. Steel Corporation	69	Latrobe Electric Steel Co.
	American Steel & Wire Co.	86	Wyckoff Drawn Steel Company
2	Bethlehem Steel Corporation	70	LaSalle Steel Company
3	Republic Steel Corporation	78	Universal Steel Company
	Union Drawn Steel Company	102	Automatic Products Company
8	Jones & Laughlin Steel Corp.	117	Compressed Steel Shafting Co.
10	Crucible Steel Co. of America	121	Cuyahoga Steel & Wire Co.
	Pittsburgh Crucible Steel Co.	132	Fitzsimmons Company
22	Timken Steel & Tube Company	142	Baltrop Steel Products Co.
30	Ludlum Steel Company	186	New England Drawn Steel Co.
54	Bliss & Laughlin, Inc.	192	Artery Electric Steel Co.
56	Carpenter Steel Company	8-17	Keystone Drawn Steel Corp.

SOURCE: COMPILED BY IRON, STEEL STUDY UNIT NRA.

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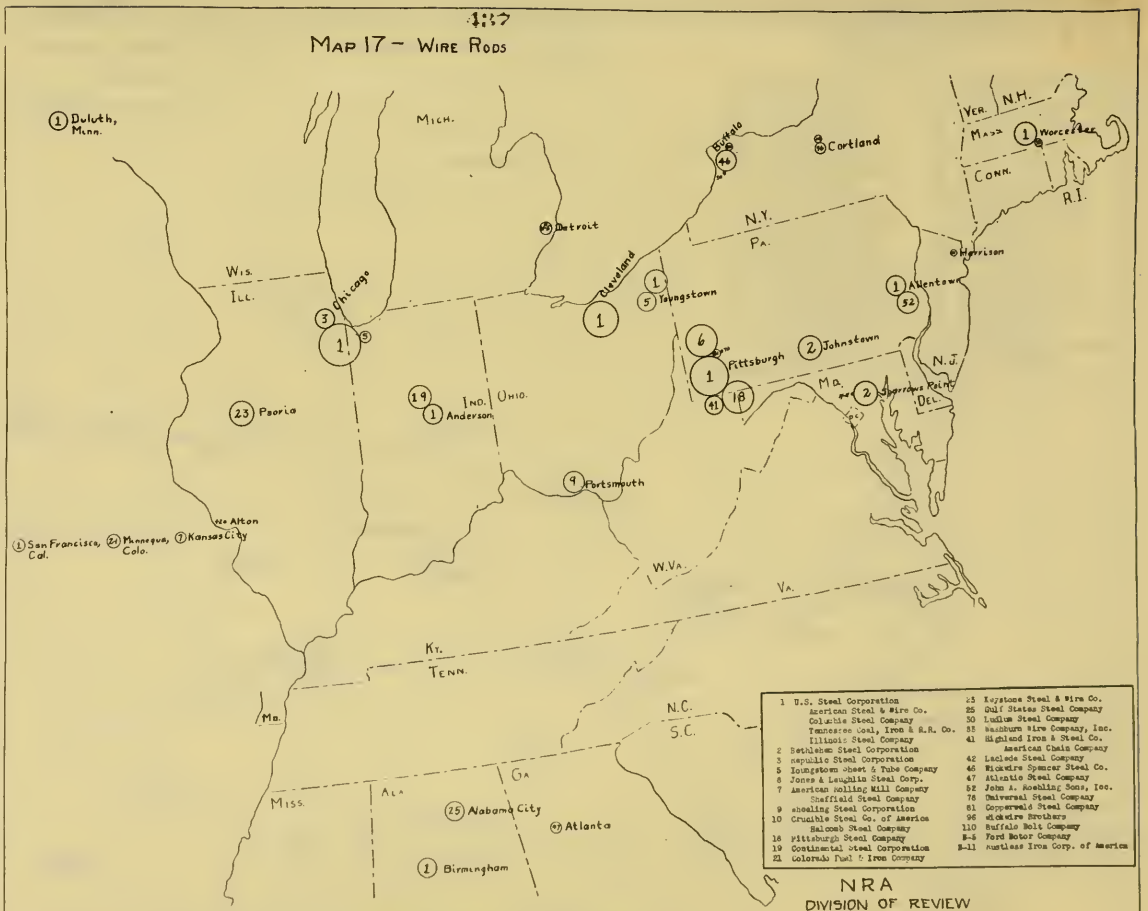
1:17

MAP 17 – WIRE RODS



1 U.S. Steel Corporation	23 Keystone Steel & Wire Co.
American Steel & Wire Co.	25 Gulf States Steel Company
Colachie Steel Company	30 Ludlum Steel Company
Tennessee Coal, Iron & R.R. Co.	35 Washburn Wire Company, Inc.
Illinois Steel Company	41 Highland Iron & Steel Co.
2 Bethlehem Steel Corporation	American Chain Company
3 Republic Steel Corporation	42 Laclede Steel Company
5 Youngstown Sheet & Tube Company	45 Wickwire Spencer Steel Co.
6 Jones & Laughlin Steel Corp.	47 Atlantic Steel Company
7 American Rolling Mill Company	52 John A. Roebling Sons, Inc.
Sheffield Steel Company	76 Universal Steel Company
9 Wheeling Steel Corporation	81 Copperweld Steel Company
10 Crucible Steel Co. of America	96 Wickwire Brothers
Halcomb Steel Company	110 Buffalo Bolt Company
18 Pittsburgh Steel Company	B-8 Ford Motor Company
19 Continental Steel Corporation	B-11 Austless Iron Corp. of America
21 Colorado Fuel & Iron Company	

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* – For own use, not Competitive

SOURCE: COMPILED BY IRON, STEEL STUDY UNIT N.R.A

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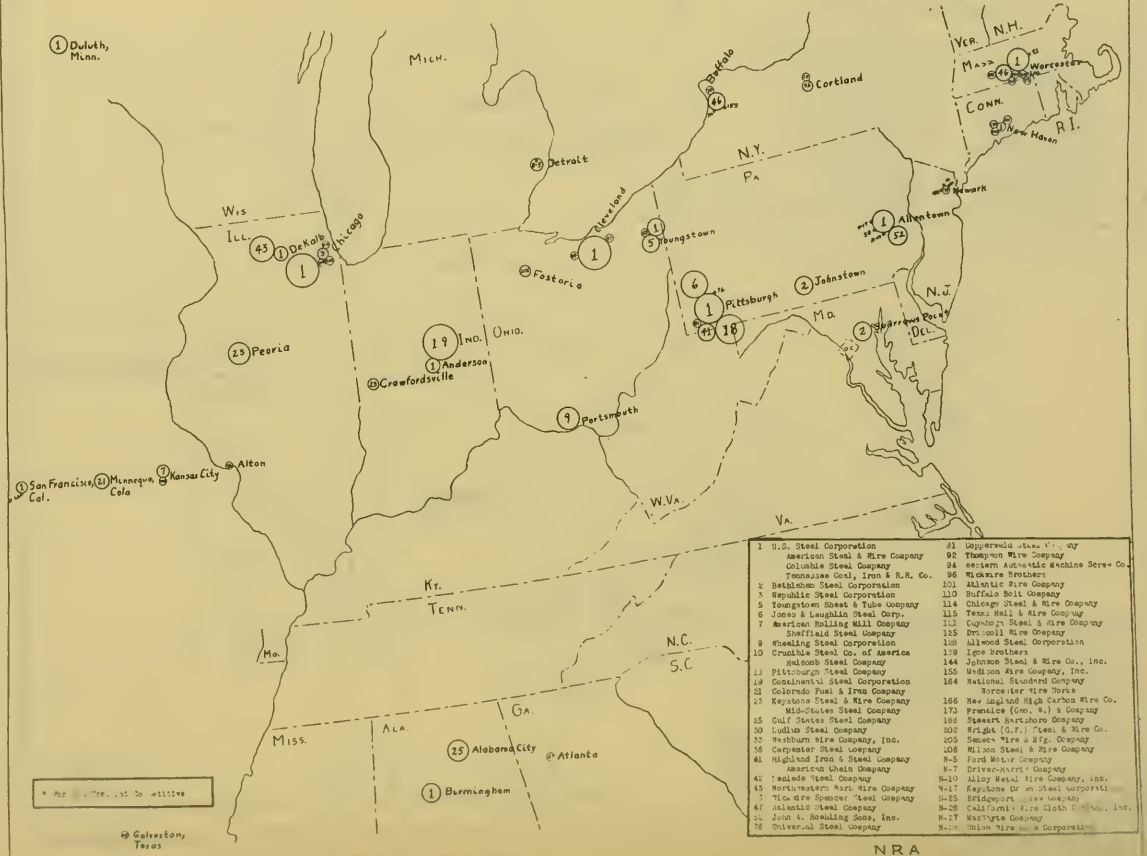
MAP 18 — PLAIN WIRE



1	U.S. Steel Corporation	81	Copperweld Steel Company
	American Steel & Wire Company	92	Thompson Wire Company
	Columbia Steel Company	94	Western Automatic Machine Screw Co.
	Tennessee Coal, Iron & R.R. Co.	96	Wickwire Brothers
2	Bethlehem Steel Corporation	101	Atlantic Wire Company
3	Republic Steel Corporation	110	Buffalo Bolt Company
5	Youngstown Sheet & Tube Company	114	Chicago Steel & Wire Company
6	Jones & Laughlin Steel Corp.	115	Texas Nail & Wire Company
7	American Rolling Mill Company	121	Cuyahoga Steel & Wire Company
	Sheffield Steel Company	125	Driscoll Wire Company
9	Wheeling Steel Corporation	128	Allwood Steel Corporation
10	Crucible Steel Co. of America	139	Igoe Brothers
	Halcomb Steel Company	144	Johnson Steel & Wire Co., Inc.
13	Pittsburgh Steel Company	155	Madison Wire Company, Inc.
19	Continental Steel Corporation	164	National Standard Company
21	Colorado Fuel & Iron Company		Worcester Wire Works
23	Keystone Steel & Wire Company	166	New England High Carbon Wire Co.
	Mid-States Steel Company	173	Prentice (Geo. W.) & Company
25	Gulf States Steel Company	188	Stewart Hartshorn Company
30	Ludlum Steel Company	202	Wright (G.F.) Steel & Wire Co.
33	Washburn Wire Company, Inc.	205	Seneca Wire & Mfg. Company
36	Carpenter Steel Company	206	Wilson Steel & Wire Company
41	Highland Iron & Steel Company	N-5	Ford Motor Company
	American Chain Company	N-7	Driver-Harris Company
42	Laclede Steel Company	N-10	Alloy Metal Wire Company, Inc.
43	Northwestern Barb Wire Company	N-17	Keystone Drawn Steel Corporation
45	Wickwire Spencer Steel Company	N-25	Bridgeport [illegible] Company
47	Atlantic Steel Company	N-26	California Wire Cloth Company, Inc.
51	John A. Roebling Sons, Inc.	N-27	MacKyte Company
76	Universal Steel Company	N-[illegible]	Union Wire [illegible] Corporation

SOURCE: COMPILED BY IRON, STEEL STUDY UNIT NRA

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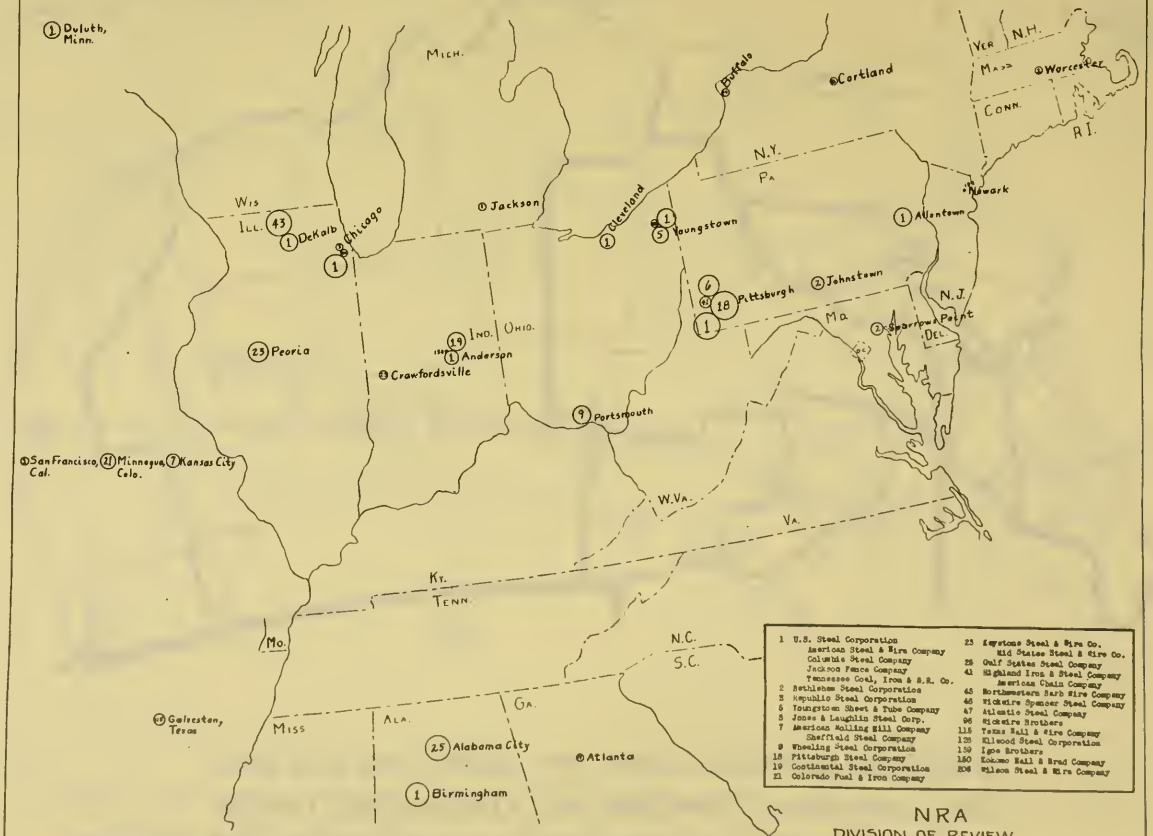
MAP 19 — WIRE PRODUCTS



1	U.S. Steel Corporation American Steel & Wire Company Columbia Steel Company Jackson Fence Company Tennessee Coal, Iron & R.R. Co.
2	Bethlehem Steel Corporation
3	Republic Steel Corporation
5	Youngstown Sheet & Tube Company
6	Jones & Laughlin Steel Corp.
7	American Rolling Mill Company Sheffield Steel Company
9	Wheeling Steel Corporation
18	Pittsburgh Steel Company
19	Continental Steel Corporation
21	Colorado Fuel & Iron Company
23	Keystone Steel & Wire Co. Mid States Steel & Wire Co.
25	Gulf States Steel Company
41	Highland Iron & Steel Company American Chain Company
45	Northwestern Barb Wire Company
46	Richwire Spencer Steel Company
47	Atlantic Steel Company
96	Sickwire Brothers
115	Texas Nail & Wire Company
128	Kilwood Steel Corporation
139	Igoe Brothers
180	Kokomo Nail & Brad Company
206	Wilson Steel & Wire Company

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SOURCE: COMPILED BY IRON, STEEL STUDY UNIT, NRA

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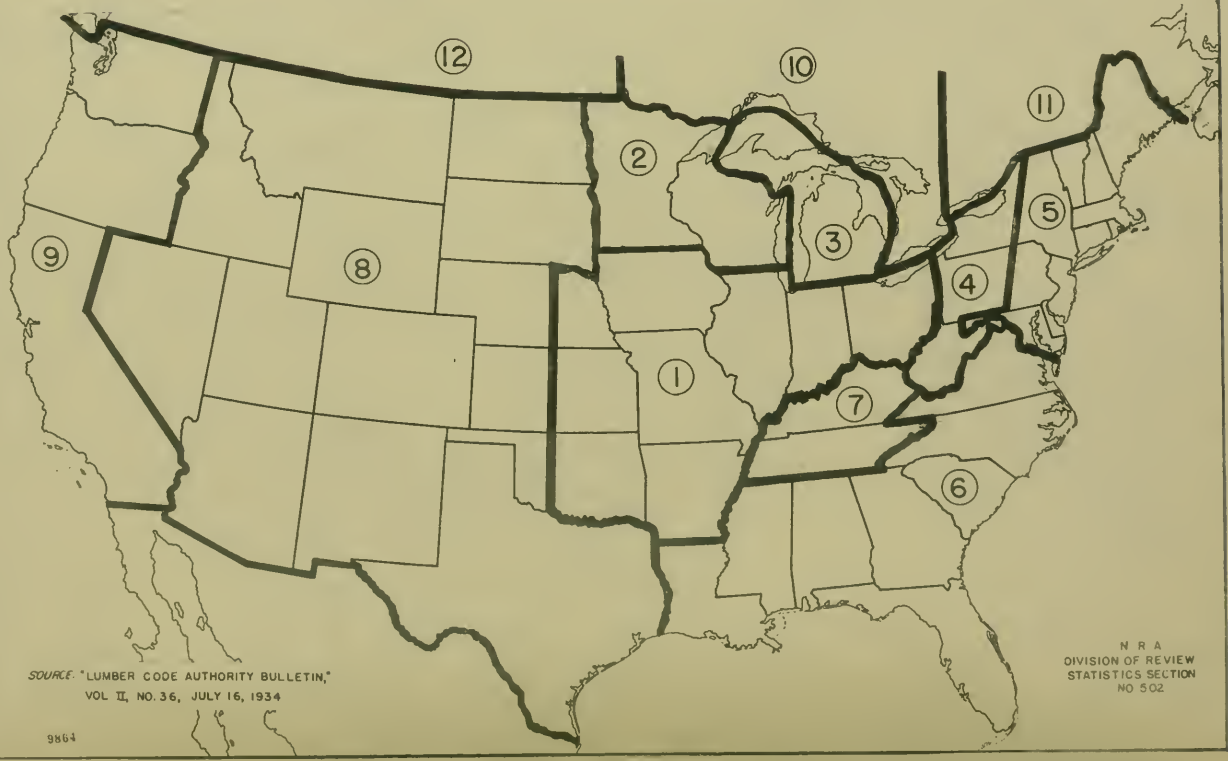
MAP 20—DESTINATION ZONES ESTABLISHED FOR PRODUCTS OF THE WALNUT SUBDIVISION OF THE HARDWOOD DIVISION OF THE CODE FOR THE LUMBER AND TIMBER PRODUCTS INDUSTRIES



SOURCE: "LUMBER CODE AUTHORITY BULLETIN," VOL II, NO. 36, JULY 16, 1934

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DIVISION OF REVIEW
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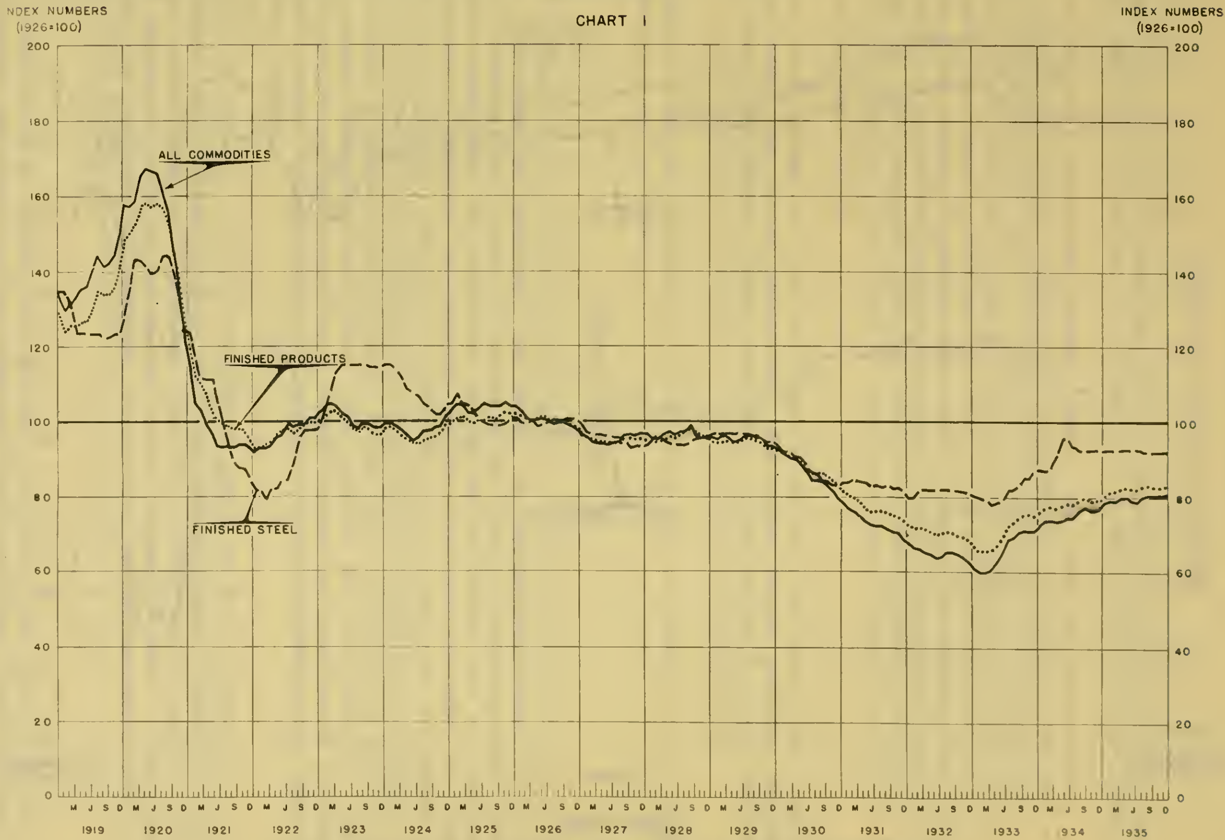
COMPOSITE INDEXES OF FINISHED STEEL AND GENERAL PRICES

1919-1935

CHART I



SOURCE ALL COMMODITIES AND FINISHED PRODUCTS FROM BUREAU OF LABOR STATISTICS

FINISHED STEEL COMPILED BY N.R.A FROM AMERICAN METAL MARKET DATA

N R.A
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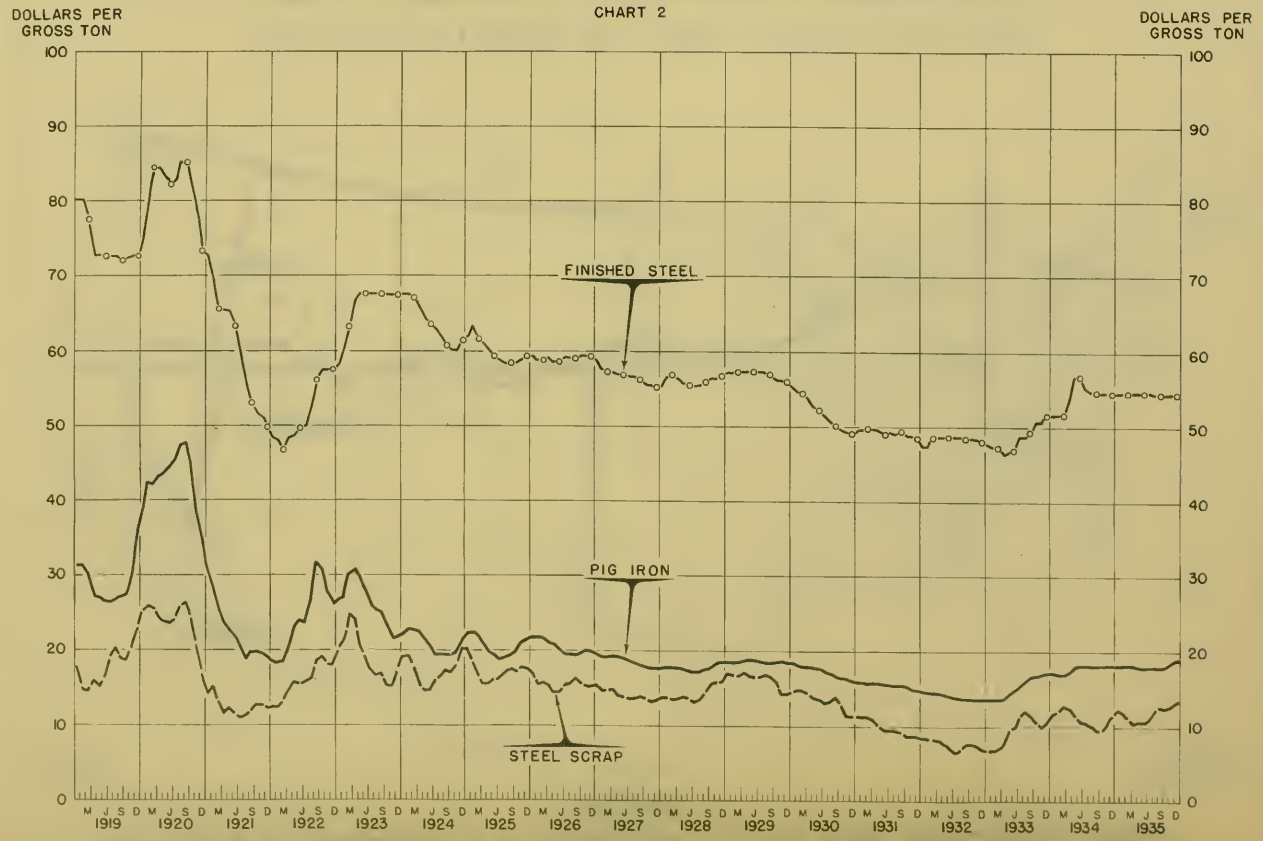
STATISTICS SECTION

COMPOSITE IRON AND STEEL PRICES

1919 - 1935

CHART 2



SOURCE: FINISHED STEEL - "AMERICAN METAL MARKET"
PIG IRON AND STEEL SCRAP - "IRON AGE"

N.R.A.
DIVISION OF REVIEW
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OFFICE OF THE NATIONAL RECOVERY ADMINISTRATION

THE DIVISION OF REVIEW

THE WORK OF THE DIVISION OF REVIEW

Executive Order No. 7075, dated June 15, 1935, established the Division of Review of the National Recovery Administration. The pertinent part of the Executive Order reads thus:

> The Division of Review shall assemble, analyze, and report upon the statistical information and records of experience of the operations of the various trades and industries heretofore subject to codes of fair competition, shall study the effects of such codes upon trade, industrial and labor conditions in general, and other related matters, shall make available for the protection and promotion of the public interest an adequate review of the effects of the Administration of Title I of the National Industrial Recovery Act, and the principles and policies put into effect thereunder, and shall otherwise aid the President in carrying out his functions under the said Title. I hereby appoint Leon C. Marshall, Director of the Division of Review.

The study sections set up in the Division of Review covered these areas: industry studies, foreign trade studies, labor studies, trade practice studies, statistical studies, legal studies, administration studies, miscellaneous studies, and the writing of code histories. The materials which were produced by these sections are indicated below.

Except for the Code Histories, all items mentioned below are scheduled to be in mimeographed form by April 1, 1936.

THE CODE HISTORIES

The Code Histories are documented accounts of the formation and administration of the codes. They contain the definition of the industry and the principal products thereof; the classes of members in the industry; the history of code formation including an account of the sponsoring organizations, the conferences, negotiations and hearings which were held, and the activities in connection with obtaining approval of the code; the history of the administration of the code, covering the organization and operation of the code authority, the difficulties encountered in administration, the extent of compliance or non-compliance, and the general success or lack of success of the code; and an analysis of the operation of code provisions dealing with wages, hours, trade practices, and other provisions. These and other matters are canvassed not only in terms of the materials to be found in the files, but also in terms of the experiences of the deputies and others concerned with code formation and administration.

The Code Histories, (including histories of certain NRA units or agencies) are not mimeographed. They are to be turned over to the Department of Commerce in typewritten form. All told, approximately eight hundred and fifty (850) histories will be completed. This number includes all of the approved codes and some of the unapproved codes. (In Work Materials No. 18, Contents of Code Histories, will be found the outline which governed the preparation of Code Histories.)

(In the case of all approved codes and also in the case of some codes not carried to final approval, there are in NRA files further materials on industries. Particularly worthy of mention are the Volumes I, II and III which constitute the material officially submitted to the President in support of the recommendation for approval of each code. These volumes

set forth the origination of the codes, the sponsoring group, the evidence advanced to support the proposal, the report of the Division of Research and Planning on the industry, the recommendations of the various Advisory Boards, certain types of official correspondence, the transcript of the formal hearing, and other pertinent matter. There is also much official information relating to amendments, interpretations, exemptions, and other rulings. The materials mentioned in this paragraph were of course not a part of the work of the Division of Review.)

THE WORK MATERIALS SERIES

In the work of the Division of Review a considerable number of studies and compilations of data (other than those noted below in the Evidence Studies Series and the Statistical Material Series) have been made. These are listed below, grouped according to the character of the material. (In Work Materials No. 17, Tentative Outlines and Summaries of Studies in Process, the materials are fully described).

Industry Studies

Automobile Industry, An Economic Survey of
Bituminous Coal Industry under Free Competition and Code Regulation, Ecnomic Survey of
Electrical Manufacturing Industry, The
Fertilizer Industry, The
Fishery Industry and the Fishery Codes
Fishermen and Fishing Craft, Earnings of
Foreign Trade under the National Industrial Recovery Act
  Part A -- Competitive Position of the United States in International Trade 1927-29 through 1934.
  Part B - Section 3 (e) of NIRA and its administration.
  Part C - Imports and Importing under NRA Codes.
  Part D - Exports and Exporting under NRA Codes.
Forest Products Industries, Foreign Trade Study of the
Iron and Steel Industry, The
Knitting Industries, The
Leather and Shoe Industries, The
Lumber and Timber Products Industry, Economic Problems of the
Men's Clothing Industry, The
Millinery Industry, The
Motion Picture Industry, The
Migration of Industry, The: The Shift of Twenty-Five Needle Trades From New York State, 1926 to 1934
National Labor Income by Months, 1929-35
Paper Industry, The
Production, Prices, Employment and Payrolls in Industry, Agriculture and Railway Transportation, January 1923, to date
Retail Trades Study, The
Rubber Industry Study, The
Textile Industry in the United Kingdom, France, Germany, Italy, and Japan
Textile Yarns and Fabrics
Tobacco Industry, The
Wholesale Trades Study, The
Women's Neckwear and Scarf Industry, Financial and Labor Data on

Women's Apparel Industry, Some Aspects of the

Trade Practice Studies

Commodities, Information Concerning: A Study of NRA and Related Experiences in Control
Distribution, Manufacturers' Control of: Trade Practice Provisions in Selected NRA Codes
Distributive Relations in the Asbestos Industry
Design Piracy: The Problem and Its Treatment Under NRA Codes
Electrical Mfg. Industry: Price Filing Study
Fertilizer Industry: Price Filing Study
Geographical Price Relations Under Codes of Fair Competition, Control of
Minimum Price Regulation Under Codes of Fair Competition
Multiple Basing Point System in the Lime Industry: Operation of the
Price Control in the Coffee Industry
Price Filing Under NRA Codes
Production Control in the Ice Industry
Production Control, Case Studies in
Resale Price Maintenance Legislation in the United States
Retail Price Cutting, Restriction of, with special Emphasis on The Drug Industry.
Trade Practice Rules of The Federal Trade Commission (1914–1936): A classification for comparision with Trade Practice Provisions of NRA Codes.

Labor Studies

Cap and Cloth Hat Industry, Commission Report on Wage Differentials in
Earnings in Selected Manufacturing Industries, by States, 1933–35
Employment, Payrolls, Hours, and Wages in 115 Selected Code Industries 1933–35
Fur Manufacturing, Commission Report on Wages and Hours in
Hours and Wages in American Industry
Labor Program Under the National Industrial Recovery Act, The
  Part A. Introduction
  Part B. Control of Hours and Reemployment
  Part C. Control of Wages
  Part D. Control of Other Conditions of Employment
  Part E. Section 7(a) of the Recovery Act
Materials in the Field of Industrial Relations
PRA Census of Employment, June, October, 1933
Puerto Rico Needlework, Homeworkers Survey

Administrative Studies

Administrative and Legal Aspects of Stays, Exemptions and Exceptions, Code Amendments, Conditional Orders of Approval
Administrative Interpretations of NRA Codes
Administrative Law and Procedure under the NIRA
Agreements Under Sections 4(a) and 7(b) of the NIRA
Approved Codes in Industry Groups, Classification of
Basic Code, the — (Administrative Order X-61)
Code Authorities and Their part in the Administration of the NIRA
  Part A. Introduction
  Part B. Nature, Composition and Organization of Code Authorities

Part C. Activities of the Code Authorities
Part D. Code Authority Finances
Part E. Summary and Evaluation
Code Compliance Activities of the NRA
Code Making Program of the NRA in the Territories, The
Code Provisions and Related Subjects, Policy Statements Concerning
Content of NIRA Administrative Legislation
Part A. Executive and Administrative Orders
Part B. Labor Provisions in the Codes
Part C. Trade Practice Provisions in the Codes
Part D. Administrative Provisions in the Codes
Part E. Agreements under Sections 4(a) and 7(b)
Part F. A Type Case: The Cotton Textile Code
Labels Under NRA, A Study of
Model Code and Model Provisions for Codes, Development of
National Recovery Administration, The: A Review of its Organization and Activities
NRA Insignia
President's Reemployment Agreement, The
President's Reemployment Agreement, Substitutions in Connection with the
Prison Labor Problem under NRA and the Prison Compact, The
Problems of Administration in the Overlapping of Code Definitions of Industries and Trades, Multiple Code Coverage, Classifying Individual Members of Industries and Trades
Relationship of NRA to Government Contracts and Contracts Involving the Use of Government Funds
Relationship of NRA with States and Municipalities
Sheltered Workshops Under NRA
Uncodified Industries: A Study of Factors Limiting the Code Making Program

Legal Studies

Anti-Trust Laws and Unfair Competition
Collective Bargaining Agreements, the Right of Individual Employees to Enforce
Commerce Clause, Federal Regulation of the Employer-Employee Relationship Under the
Delegation of Power, Certain Phases of the Principle of, with Reference to Federal Industrial Regulatory Legislation
Enforcement, Extra-Judicial Methods of
Federal Regulation through the Joint Employment of the Power of Taxation and the Spending Power
Government Contract Provisions as a Means of Establishing Proper Economic Standards, Legal Memorandum on Possibility of
Industrial Relations in Australia, Regulation of
Intrastate Activities Which so Affect Interstate Commerce as to Bring them Under the Commerce Clause, Cases on
Legislative Possibilities of the State Constitutions
Post Office and Post Road Power — Can it be Used as a Means of Federal Industrial Regulation?
State Recovery Legislation in Aid of Federal Recovery Legislation History and Analysis
Tariff Rates to Secure Proper Standards of Wages and Hours, the Possibility of Variation in
Trade Practices and the Anti-Trust Laws
Treaty Making Power of the United States
War Power, Can it be Used as a Means of Federal Regulation of Child Labor?

THE EVIDENCE STUDIES SERIES

The Evidence Studies were originally undertaken to gather material for pending court cases. After the Schechter decision the project was continued in order to assemble data for use in connection with the studies of the Division of Review. The data are particularly concerned with the nature, size and operations of the industry; and with the relation of the industry to interstate commerce. The industries covered by the Evidence Studies account for more than one-half of the total number of workers under codes. The list of those studies follows:

Automobile Manufacturing Industry
Automotive Parts and Equipment Industry
Baking Industry
Boot and Shoe Manufacturing Industry
Bottled Soft Drink Industry
Builders' Supplies Industry
Canning Industry
Chemical Manufacturing Industry
Cigar Manufacturing Industry
Coat and Suit Industry
Construction Industry
Cotton Garment Industry
Dress Manufacturing Industry
Electrical Contracting Industry
Electrical Manufacturing Industry
Fabricated Metal Products Mfg. and Metal Finishing and Metal Coating Industry
Fishery Industry
Furniture Manufacturing Industry
General Contractors Industry
Graphic Arts Industry
Gray Iron Foundry Industry
Hosiery Industry
Infant's and Children's Wear Industry
Iron and Steel Industry
Leather Industry
Lumber and Timber Products Industry
Mason Contractors Industry
Men's Clothing Industry
Motion Picture Industry
Motor Vehicle Retailing Trade
Needlework Industry of Puerto Rico
Painting and Paperhanging Industry
Photo Engraving Industry
Plumbing Contracting Industry
Retail Lumber Industry
Retail Trade Industry
Retail Tire and Battery Trade Industry
Rubber Manufacturing Industry
Rubber Tire Manufacturing Industry
Shipbuilding Industry
Silk Textile Industry
Structural Clay Products Industry
Throwing Industry
Trucking Industry
Waste Materials Industry
Wholesale and Retail Food Industry
Wholesale Fresh Fruit and Vegetable Industry
Wool Textile Industry

THE STATISTICAL MATERIALS SERIES

This series is supplementary to the Evidence Studies Series. The reports include data on establishments, firms, employment, payrolls, wages, hours, production capacities, shipments, sales, consumption, stocks, prices, material costs, failures, exports and imports. They also include notes on the principal qualifications that should be observed in using the data, the technical methods employed, and the applicability of the material to the study of the industries concerned. The following numbers appear in the series:
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Asphalt Shingle and Roofing Industry
Business Furniture
Candy Manufacturing Industry
Carpet and Rug Industry
Cement Industry
Cleaning and Dyeing Trade
Coffee Industry
Copper and Brass Mill Products Industry
Cotton Textile Industry
Electrical Manufacturing Industry
Fertilizer Industry
Funeral Supply Industry
Glass Container Industry
Ice Manufacturing Industry
Knitted Outerwear Industry
Paint, Varnish, and Lacquer, Mfg. Industry
Plumbing Fixtures Industry
Rayon and Synthetic Yarn Producing Industry
Salt Producing Industry

THE COVERAGE

The original, and approved, plan of the Division of Review contemplated resources sufficient (a) to prepare some 1200 histories of codes and NRA units or agencies, (b) to consolidate and index the NRA files containing some 40,000,000 pieces, (c) to engage in extensive field work, (d) to secure much aid from established statistical agencies of government, (e) to assemble a considerable number of experts in various fields, (f) to conduct approximately 25% more studies than are listed above, and (g) to prepare a comprehensive summary report.

Because of reductions made in personnel and in use of outside experts, limitation of access to field work and research agencies, and lack of jurisdiction over files, the projected plan was necessarily curtailed. The most serious curtailments were the omission of the comprehensive summary report; the dropping of certain studies and the reduction in the coverage of other studies; and the abandonment of the consolidation and indexing of the files. Fortunately, there is reason to hope that the files may yet be cared for under other auspices.

Notwithstanding these limitations, if the files are ultimately consolidated and indexed the exploration of the NRA materials will have been sufficient to make them accessible and highly useful. They constitute the largest and richest single body of information concerning the problems and operations of industry ever assembled in any nation.

L. C. Marshall,
Director, Division of Review.

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